An Address
ON
AIR, WATER, AND SITUATION.

Delivered before the British Balneological and Climatological Society on May 30th, 1907,

By NORMAN MOORE, M.D. Cantab., F.R.C.P. Lond.,
PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

Mr. President and Gentlemen,—The earliest treatise on the subjects with which your society is concerned is the famous book of Hippocrates, *περὶ ἀέρων, ὑδάτων, τόπων*. It was first printed by Aldus in 1526 and was first translated into English by Dr. Clifton in 1734. Coray, a modern Greek learned in the ancient language, published a separate edition of the text with notes and a French translation in 1800. Hippocrates recommends the consideration of the seasons of the year, of the hot and cold winds, and of the several kinds of waters, and discusses the physical effects of bracing and of relaxing climates. Then he considers waters, beginning with the observation that "the share they have in the matter of health is very great," and if many of his remarks about hard and soft, mineral, and rain and snow water involve hypotheses which we find it difficult to follow they at least show that he had traced some diseases, such as diarrhœa, to an origin in impure water and that he had thought the whole subject worthy of a full examination. The great effect on after times of his remarks on the associations of particular forms of disease with the seasons and their meteorological varieties may be observed in the writings of Sydenham. That great writer, careless as he generally was of the statements or the remarks of previous writers, in this particular seems as devoted to the Hippocratic view as Galen himself. We are accustomed, and rightly, to think of Sydenham as one of the chief founders of modern medicine, yet his form of expression in relation to years and seasons is always like that of Hippocrates and as far removed as possible from our modern bacteriological phraseology. Sydenham's use of the term "epidemic constitution" I think arises from his familiarity with this book of Hippocrates. A closer study of what Sydenham says shows that his statements, whilst they assume an epidemic constitution, endeavour to deduce its nature from what he had seen take place and that he had studied the books of the Epidemics where so many precise examples are given, as well as the generalities of the *περὶ ἀέρων*.

To return to Hippocrates. He next considers the several races of mankind with which he was acquainted as regards their physical and mental attributes and in relation to disease: and herein discusses the effects of highlands and lowlands, rich soil and barren soil upon men: and ends the book with further general remarks on his subject. His book may justly be considered the first on your subjects and on hygiene, and is also one of the earliest contributions to the study of anthropology. If I may trace the genealogy of your subject from ancient Greece and the fifth century before Christ to ancient Rome in the lifetime of Julius Cæsar I will venture to suggest that as the end of the sixth book of the great poem of Lucretius "De Rerum Natura" shows that he knew Thucydides' account of the epidemic called the plague of Athens, so an earlier passage in the same book, that in which the author proposes to explain the law of diseases—

> "Nunc ratio quae sit morbis aut unde repente
> Mortiferam possit cladem conflare coorta
> Morbida vis hominum generi pecudumque catervis,
> Expediam!"—

(Now I will explain what the law of diseases is, and from what causes the force of disease may suddenly gather itself up and bring death-dealing destruction on the race of men and the troop of brute beasts.)

shows that Lucretius had read the *περὶ ἀέρων, ὑδάτων, τόπων* of Hippocrates and particularly the lines—

> "Nonne vides etiam caeli novitate et aquarum
> Temptari procul a patria quicumque domoque
> Advenimt ideo quia longe discrepitant res?"

(See you not that all who come to a place far away from fatherland and home are affected by the strangeness of climate and water, because there are wide differences in such things?)[1]

This part of the poem has a special interest for us, as it contains one of the earliest, perhaps the earliest, allusion to British climatology—

> "Nam quid Brittanni caelum differre putamus,
> Et quod in Ægypto est."

(For what a difference may we suppose between the climate of the Briton and that of Egypt.)[2]

As we have just seen a great proconsul return from his beneficent rule in Egypt, a rule which has done much for patients and for medicine in both countries, I cannot help remarking that this is also the first passage in which our island and Egypt are mentioned together. Having thus brought your subject from its Hippocratic origin in Greece to Rome and having in Lucretius shown you a very early statement in British climatology it may next be interesting to consider one of the earliest examples of British balneology in a consultation on the use of Bath in the case of Anne of Denmark, Queen of James I. Of course, the Roman remains at Bath show at how remote a period its waters had been used, but this consultation is the earliest I have met with in which the state of a particular patient and the use of Bath are fully considered by physicians. The account is to be found in the collection from the papers of Sir Theodore Turquet de Mayerne, printed by Dr. Joseph Brown in 1700.

The Queen had gout at Christmas, 1612, she took no solid food for a fortnight and gradually regained her health. Some œdema of her feet remained. On May 2nd, 1613, she was at Laycock Abbey in Wiltshire and had an ulcer on her left foot. Mayerne, as was his habit, drew up a short report of her past and present state of health, and stated six reasons why he tried to dissuade her from taking baths. She was to take two glasses of white Rhine wine two hours before breakfast and two more one hour before dinner, and the wine was to be medicated with sarsaparilla, sassafras, juniper, sandal wood, powdered hartshorn, powdered ivory, buglos, brunell, sainole, agrimony, pimpernell, betony, veronica, chamomile, cowslip, chamœpytis, and mixed moschata. On May 5th there was a consultation in Lord Worcester's house at Bath, in which, after an explanation as to her constitution and the causes of her coming to Bath, viz., œdema of her ankles and weakness of all her joints, Mayerne with Dr. Sherwood and Dr. Barker agreed that it was inadvisable the Queen should take the Bath.

Other notes of Mayerne show that the Queen was inclined, however advised, to take her own course, and directions follow in case the Queen should after all insist on bathing. She did insist and went into the large king's bath on May 19th and stayed in it for half an hour and afterwards went regularly for some time. She returned in late years. In March, 1618, the Queen seems to have had chronic renal disease. She went to Bath again and was much better in May. She died March 20th, 1619.

With the rise of reputation of particular baths and climates, of course books appeared to explain their value and give an account of cures. These works are often of great and varied interest and an excellent example of the variety and of the interest is to be found in the "History and Memoirs of the Bath," by Robert Peirce, M.D., for nearly 60 years physician in Bath, published in 1713. The cases recorded are varied and many of them are highly interesting. One is the earliest example of intermittent limp recorded in England.

> The Reverend Robert Parsons, of Adderbury in Oxfordshire " in May, 1684, came to the Bath very Lame, and that Lameness came upon him very oddly, and suddenly. He was (about six months before he came hither) very Healthful, Lusty, and Strong, but going up a steep Hill (when he had been wearied in going before) an intolerable Pain seiz'd him on a suddain in the Calf of one of his Legs, insomuch, that (hearing no Gun to go off) he had thought that some Body had shot him with a Cross-Bow; but being convinced of the contrary by a Friend of his that came immediately after him, he concluded that he had broken something, by overstraining. He fell presently to the ground, not being able to go a step further, and the Acuteness of the Pain made him sweat and faint, and very sick at Stomach; but that went off in a while, and something more at Ease he was, but not able to go. He was carry'd home, and continued weak and lame for a long time, tho' he had the assistance of the most considerable Physitians and Chyrurgeons in England; many applications were made outwardly; much means was used inwardly; but with very little success, which put him upon coming to the Bath, where he apply'd himself to me. I directed such Preparations as I thought needful; after which put him upon bathing, and pumping, the Infirm Limb, and sometimes drinking the Waters, which he continued to do for five Weeks; yet there appear'd no great Alteration to the better, whilst he was using the means; yet it disposed him to, and very much facilitated, his Recovery; for it brought Warmth and Heat into the Part, which it was altogether destitute of before; it took off the Convulsive Motions

[1] VI., 1090. [2] VI., 1103. [3] VI., 1106.

which were before frequent, and violent (especially by night, and when he was first falling asleep). His Thigh and Leg began to get flesh again, for they were very much Emaciated, and always cold. After he went from hence he recovered by degrees, and could walk five or six miles on end without a Staff, and so continued several years after."[4]

The record[5] of a death from chorea is probably the earliest in England. Miss Langton, aged 15 years, died in September, 1694, "of that sort of Convulsion which is known by the name of Chorea Sancti Viti and the severest I ever saw, there being not one muscle of her whole body that was not convulsed and in continual motion, but when she slept, which was not often nor long together, and yet her mind and memory sound till toward the last, it yielded to no means; she dyed about the fifteenth day." Sydenham in his admirable account of chorea does not allude to any fatal case.

The account[6] of "Palsie after the Cholick," when studied with the work of a later Bath physician, Dr. Rice Charleton, "An Inquiry into the Efficacy of Bath Waters in Palsies," published in its fullest form in 1774, shows that the great reputation of the waters in the cure for paralysis had a real foundation. It was due to the many patients chiefly from the West country who arrived with paralysis of the extensors of the forearms and of other muscles due to drinking cider impregnated with lead. Out of 237 cases of this kind recorded by Charleton he only reports five as receiving no benefit. The beautiful leaden cisterns of that period are often to be seen in old houses and with the quaint inscribed leaden pipes which lead from them remind us of another reason for the frequency of lead palsy.

A minister of Lincolnshire, one Mr. Pilkington, aged 33 (who) came hither in May, 1666. He liv'd near the Fenns, to which Uliginous Air, was ascrib'd the beginning of his Illness. After such a Collick he was Crippled, and Emaciated all over; his Legs were in some measure, recover'd before he came hither, for he could go tho' but feebly, and had not much Pain, but his Arms and Hands were wholly useless, and hung like Flayls. He could not lift either of them to his Head, nor grasp anything with his Hands; the great muscle of the Thumb (wherein chiefly consists the strength of the Hand) was quite wasted. He could not feed himself, much less put off and on his own Cloaths. After Preparatory Purging, I put him upon drinking the Waters, to prevent the Return of the Collick (for he had had some Threatenings of a Recidivation) and a Chalybeat Course, and Bathing between whiles, as his Weakness would bear it. The first instance of his being better with much Joy, to show his Improvement) coming to my House, he put off his Hat to me; for tho' he was a Clergyman, his Disease had made him so much a Quaker, that he could not perform that accustomed Civility to any one, till after awhiles Bathing. Before he went hence he could write his name competently well, that could not hold a Pen in many months before. He stay'ed Six or Seven Weeks, and then return'd greatly advantaged, and directed to the Use of Antiscorbutick and Neurotick Alternatives; and to return the next year which he did, and perfected what he had so well begun the year before.

After the discovery of Sir George Baker that this paralysis was due to the use of leaden vats in making cider and the consequent disuse of them, there were comparatively few cases of palsy of this curable kind to go to Bath. The several causes of paralysis were not yet understood and the medical public were inclined to think that the old reputation of the waters had not been well-founded because the cases of paralysis which still went to Bath received no benefit. Our fuller knowledge demonstrates to us that the old cures were real and not imaginary. The first impression seems to have been that any chronic illness might receive benefit from Bath and it was long before certain patients were declared not to be Bath cases. This distinction could not have come into use when Dr. John North, master of Trinity College, Cambridge, was sent to Bath in May, 1681, to be cured of a Palsie associated with epileptic fits, and the account of his case given by Dr. Peirce and supplemented by that of Roger North, his nephew, sets forth clearly the prevalent extent of knowledge of hemiplegia at a time when the clinical and pathological observations of Wepfer and the anatomical studies of Willis and Lower had been for some years before the world. The case was perhaps one of embolic hemiplegia.

The manner of its Access was this. The Master and Seniors thought fit to revive an antiquated discipline, according to the Statutes, of admonishing disorderly scholars, in order (without amendment) to expulsion; and in the Morning the Doctor came out from the Meeting (where probably he had been a little roiled) to perform his duty upon two scholars then brought to be admonished: And it was observed that he admonished with more than usual Earnestness and Acrimony in his speech; for the Lads were much to blame, and behaved themselves very contumaciously. When the Body is weak, Passion is usually strong, and diverse Things concurred to stir it up in him, which probably touched the Trigger, and, while he was speaking, down he dropt. It is possible that, without these Circumstances of Emotion of his Spirits, this had not happened at that time; but then it is more than likely that on some more unhappy Place, or Occasions, as preaching, or in some other solemn Presence, the like had happened; but here it was almost at his own Bedchamber Door. He was immediately taken up, wherein the two scholars were very assistant, and carried to his bed, there being little Hopes of Life in him. But the Physicians were immediately sent for, and due methods used as in Cases of Apoplexies.

After the ordinary tormenting operations were over, he recovered a little sense, but was excessively drowsy; and it was judged that unless that symptom could be conquered, he must drop from them. Whereupon, by direction, followed perpetual noise and Clangor, one sort or other, to keep him awake. There was consort of Tongs, Firegrate, Wainscote Drum, and dancing of Curtains and Curtain Rings, such as would have made a sound Man mad.

It was presumed that, if he fell asleep, he would never wake any more; so his Instruments were plied until his good Mother (who was immediately sent for) came to take Care of him. She was a magnanimous Lady, that had nurst a large Family, old and young, for diverse years, and, in Experience, was more than a Match for a College of Physicians. She saw in what Torment her Son lay drowsy to Death, and gave attention to what the Physicians said; but all the while admired the Musick they made. She desired of the Physicians that her Son might have a little Sleep. *No, Madam*, said they, *for if he sleeps yet, he will never wake again*. The good Lady had no longer Patience, but set up her maternal Authority, and, told them flat and plain that her Son should have Rest, and that quietly, for full two Hourse, and she would answer the Consequences. He was her Son, and she would have the Nursing of him. Thereupon she dismissed the Musicians, and desired the learned and the unlearned (for there were many Evesdroppers and news carriers in the Room), to withdraw and leave her. She kept with her only the Maid she brought; and they two went to work, ordered the Bed, and laid the poor Patient in such a Posture as she thought most proper for his taking Rest; and then, sending her Maid to wait without, she sat herself down at the Bed's Head, and all was hush for the full Time. Sometimes she peeped in upon him, and found no Reason to retrench any Part of it. After this she opened the Curtains, and called in the Physicians, and the rest that had a Mind to be there, and shewed them how easy and quiet he lay, and breathing as Nature required. His Countenance had a good Colour, and his Face was composed, which, before, was distorted in diverse Manners with his Eyes staring like one of the Furies *Now, Doctors*, said she, *what think ye? But, Madam*, said one, *will he wake? You shall see*, saids he, and gently jogging him by the Arm as he lay, he woke, and, opening his Eyes, knew several there and spoke to them. The Physicians were exceedingly surprised; for they expected great difficulty in waking him, and had been consulting of methods how to do it.

Ruin and Confusion as the Blast had left it; never to be recovered into it's former Order and Strength again. The Fit went off, but left the Doctor under an Infliction of a desperate numb Palsey all on one Side of him; which the learned call an Hemiplagia.

After he was enfranchised from his Bed, and had the Entertainment they call walking about his Chamber, and diverse Friends and Acquaintance came and staid with him, he gathered some little Strength. But his Levities still continued, and he used to please himself with rehearing paltry Rhymes and Fables; and what with difficulty of Utterance [for his speech was touched and never perfectly recovered] and what with his unseemly laughing, it was long before he could get any Thing well out; and at last he made but broken stuff of it. All this was inexpressible grief and mortification to his Friends, seeing that dismal Alteration. They had known his Genius bright, and, in his Health, solemn, grave and instructive; and his Mirth, when it happened, not without a Flow of pleasant Wit, and, as it ought to be, ever decent and without offence; far from all Suspicion of a Possibility that such Levity of Humour and Discourse should ever appear in him. He seemed as an high flying Fowl with one Wing cut; the Creature offers to fly, and knows no Cause why he should not.

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The Doctor lived to recover his Faculties of Mind, and Powers of his Body, in some Measure; and had it not been for one immense Malady that attended the Palsey, and held him down, there had been hopes of a competent Recovery; and that malady was Epileptic Fits. These appeared soon after the Apoplexy went off. They were gentle at first, but continually invigorated, and every one of them gave him a Twitch nearer his grave. And these were esteemed the result of Amber smoak. There happen many Apoplexies and Palsies, but few come off with an Epilepsy. These fits came, nearly, after a Month's Interval; but were not strictly prejudicial or Lunar (as old women dream). Any Disorder, or Intention of Thought, a little Anger, Cold, or Disappointment, brought them, which made him seek to be as quiet and still as he could. They dejected his spirits to a very great Degree, and deprived him of all Comfort; and one great Unhappiness was, that, in his Fits, he could not help biting his Tongue, and that kept back the Recovery of his Speech. He found that Strong Wines help to put off a Fit, which made him, when he suspected one, to desire it as a condemned Malefactor does a Reprieve, and accordingly he used the strongest Sherry, Glass after Glass, which, formerly, he would have thought more than a Cup too much; but it was a reasonable Recruit of his Spirits, which, by such Fits, were of course overthrown. As the Doctor's Strength of Body decreased, so the malignant Fits returned thicker but more languid; for there was scarce left Substance enough to sustain the Rancour of them. After they had brought him almost to forget the World, and to spend most of his Time upon a couch, which was after near five years from his first stroke, there was very little left for them to do.

The paralytic effects of arsenic have lately become widely known through the beer poisoning in Manchester, but perhaps the earliest case recorded in England is one by Dr. Peirce:—

There hath been here cured a fourth sort of lameness which hath seized those that have taken poyson, especially that of arsenicke (commonly called Ratsbane).[7]

A Mrs. Neate, aged 27 years, had taken a large quantity of ratsbane with suicidal intent and Dr. Peirce saw her while vomiting from it and after treating her left with this Prognostick "that she must expect the use of some of her

[4] I., p. 150. [5] I., p. 67. [6] P. 83. [7] P. 154.

limbs to be taken away." After she had been lame for six months he was again consulted and advised Bath. "I advised the Bath, but it was a great while before they could persuade her to come and all that while she remained a helpless cripple." At length she came and after two prolonged visits the loss of power in her legs disappeared. Dr. Peirce had many friends and correspondents among physicians. Sir John Micklethwaite, Harvey's immediate successor at St. Bartholomew's, and Sir Charles Scarburgh who is mentioned in Harvey's will, both sent him patients and so did Sir Alexander Frazier who, after long sharing the discomforts of the Court of Charles II. in exile, settled down to a flourishing practice after the Restoration with a residence in Whitehall. Charles II. and Queen Katherine occupied Dr. Peirce's house at Bath in 1663 and it was then he came to know Sir Alexander Frazier who expressed the opinion that the waters of Bath were the same as those of Bourbon and would probably be more suitable for English bodies. In discussing the question of when the drinking of the waters at Bath came in, for it was in his time believed to be rather a modern custom to drink them, he quotes a letter of Sir Thomas Browne written to him July 12th, 1677, to recommend a patient, Mrs. Bridget Reade of Suffolk. As the letter seems to have escaped the attention of Wilkin, the careful editor of Browne's correspondence, you may care to hear it:—

> If my old friend Dr. Bave had taken more notice of my Counsel, the drinking of the Bath Waters might have been in Use long agoe; for above thirty yeare since I writt unto him, to bringe the drinkinge of them into Use, accordinge to the custome of many othe[r] Baths beyond the Sea, which he very well knew, but would not hazard his Credit in such a new Attempt; which notwithstanding had not been an Innovation, but rather a Renovation, or renewing a former Custom.

Dr. Peirce gave notes of about 180 cases and in the case of Sir Thomas Malverer, who had a large psoas abscess, and of Sir Robert Craven, who during life had curious attacks of dyspnœa and after death was found to have a large persistent thymus, shows a good knowledge of morbid anatomy. Besides its medical interest his book has a further value which all good medical books describing cases possess in the view which it gives of the life of the time. Galen often brings before us the incidents of daily life in Imperial Rome. William Clowes unconsciously depicts for us London life in the time of Queen Elizabeth and in Dr. Peirce's book there are glimpses of English life in the half century which succeeded the Restoration. The illness of Colonel John Sayer, a Royalist, seemed to be caused by his imprisonment during the Commonwealth in a damp prison when he was wet after a rainy journey on an accusation of being concerned after compounding for his estate at Goldsmith's Hall "in one of Oliver's discovered or pretended Plots." Another case "was in a daughter of Colonel Walton's; he being one of King Charles I.'s judges forfeited life, estate and all, so that the children lived upon the exhibitions of Relations and friends."

Richard Talbot, Earl of Tyrconnell, soon afterwards James II.'s Lord Deputy in Ireland, was sent to Bath in about 1686 with a letter to Dr. Peirce from Dr. William Waldegrove, physician to Mary of Modena. Talbot was in a depressed state, had an intermitting pulse, frequent attacks of palpitation of the heart, a bad digestion, and no appetite—conditions obviously compatible with Lord Macaulay's description of his course of life. Two quarts of Bath water a day, and then five pints, and then three quarts for five or six weeks altered his state for the better. "He went hence cheerful and well and with a good stomack, the palpitation almost wholly abated and the intermitting of his pulse scarcely discernible." Colonel Tollemache (written Talmidge by Dr. Peirce), who was afterwards the Lieutenant-General whose death in the expedition against Brest is so deep a stain on Marlborough's character, in June, 1683, came to Bath and was cured of chronic abdominal pains. The Duke of Lauderdale came in 1673 "for more than ordinary corpulence" and did well, "losing a large span of his girth." A Scottish gentleman,[a] Major Arnot, came for pain in the left arm which he attributed "to carrying his Hawk upon that fist in all weathers and the frequent colds he had taken in pursuit of that game." Hawking did not begin till the cornfields were free, for Sir John Gell of Hopton in Derbyshire "went hence to his own house to hawk (after the harvest was in) for a month or five weeks." Such is the book of Dr. Robert Peirce, one of the most interesting of the old treatises on your subject.

[a] P. 44.

Besides books on single baths or climates there are of course in medical libraries many on baths or climates at large, such as the two volumes issued by the Royal Medical and Chirurgical Society and the excellent work of Dr. W. R. Huggard on climates. Among writers of this kind in the past Dr. John Rutty deserves commendation for his approach to that precision of statement which is now aimed at and which your society does so much to encourage. Dr. Johnson and Boswell sat up late at Ashbourne in 1777 talking of a book by Dr. John Rutty. It was not the treatise on your subject but the passage may serve to bring Dr. Rutty before us. The book was "A Spiritual Diary and Soliloquies" and Boswell describes it without injustice. He says:—

> This diary, which was kept from 1753 to 1775, the year in which he died, and was now published in two volumes octavo, exhibited, in the simplicity of his heart, a minute and honest register of the state of his mind; which, though frequently laughable enough, was not more so than the history of many men would be, if recorded with equal fairness. The following specimens were extracted by the reviewers:
>
> Tenth month, 1753.
>
> 23.—Indulgence in bed an hour too long.
>
> Twelfth month, 17.—An hypochondriack obnubilation from wind and indigestion.
>
> Ninth month, 28.—An over-dose of whisky.
>
> 29.—A dull, cross, cholerick day.
>
> First month, 1757, 22.—A little swinish at dinner and repast.
>
> Dogged on provocation.
>
> Second month, 5.—Very dogged or snappish.
>
> 14th.—Snappish on fasting.
>
> 25th.—Cursed snappishness to those under me, on a bodily indisposition.
>
> Third month, 11.—On a provocation, exercised a dumb resentment for two days, instead of scolding.
>
> 22.—Scolded too vehemently.
>
> 23.—Dogged again.
>
> Fourth month, 29.—Mechanically and sinfully dogged.
>
> Johnson laughed heartily at this good Quietist's self-condemning minutes; particularly at his mentioning, with such a serious regret, occasional instances of *swinishness* in eating, and *doggedness of temper*.

Rutty sometimes doubted whether he did not give too much time to his scientific studies. He clearly worked at them with a most honest thoroughness. His "Methodical Synopsis of Mineral Waters," published in 1757, is a systematic account of a great number of waters investigated as regards their chemical composition so far as the knowledge of the time then went and with examples of their therapeutic effects. The quarto of 660 pages, though it contains a vast collection of information, is not very interesting. Rutty, though a good chemist, a methodical writer, and an assiduous collector of facts, does not narrate cases with much lucidity. His book, like many others on balneology, is now chiefly interesting as an example of the varying reputation of springs. He writes 23 pages on the water of Swanlinbar, which he says is the best sulphur spring in Ireland. The place has the honour of being mentioned by Swift but neither chemical merit nor mention in literature has been sufficient to maintain it as a health resort, and at the present day it is altogether neglected and the village once frequented by patients from all parts of Ireland is now unknown to fame. Perhaps I am the only person in this audience who has tasted its water on the spot. He mentions at least 30 other springs in Great Britain or in Ireland now as unused as the once valued waters of Islington and of Hampstead. Yet Rutty deserves commendation for his endeavour to treat the subject with precision.

And now having said something of the past may I turn to your branch of therapeutics in the present? The treatment of tuberculosis by air and climate has become a study in itself and seems likely to yield more satisfactory results than any other method of therapeutics in the many varieties of that pathological condition. Of this the whole medical profession seems convinced. What is the effect of climate and of air on rheumatic fever? This problem seems to me to deserve more attention than it has hitherto received. In times which we can most of us remember rheumatic fever was regarded as an affection of the joints often complicated with endocarditis or pericarditis. It is still thought of as a disease lasting a few weeks with a tendency to relapse and to further attacks. The former view is obsolete and the latter seems based upon a superficial observation of the disease. Pathologically we may regard it as a disease dependent on the development of a micro-organism, of which the central place of growth is the endocardium and which extends to the joints, to the subcutaneous tissues, to the pericardium, and possibly to the lungs and to the meninges. It is so important as regards treatment to get rid of the view that the affection of the heart is merely a frequent incident of rheumatic fever that I could wish that the diagnosis were always made to rest upon the

evidence of endocarditis, the joint pains and the temperature taken together, and that cases in which, after daily observation for three weeks, no signs of endocarditis were discovered should be excluded from the description rheumatic fever. The effect of this would be to keep before us endocarditis as the object of our treatment. Looked at in this way, we may arrive at the conclusion that rheumatic fever is a prolonged disease and that most of what are called relapses are mere exacerbations of a continuous endocardial condition; and that even what are called second and third attacks may not infrequently be continuations without actual intermission of the primary endocarditis.

Our treatment of this endocarditis is shown to be in its infancy by the prevalence of mitral disease undoubtedly originating in it. Besides the use of salicylates and of rest in bed it seems likely that there may be some climatic treatment which may insure the complete destruction of the micro-organism. A frequent examination of the heart in rheumatic fever will satisfy most observers that the valvular injury is not necessarily the product of the first week but is often spread over a long period of time. I think it is clear that the treatment of rheumatic fever is not sufficiently prolonged and that a much longer period of treatment might diminish the number of cases of consequent valvular disease. In this might not climatic treatment take an important part? The course of ulcerative endocarditis with infective emboli and with a temperature rarely falling to the normal may be prolonged for months and very rarely ends in recovery. Serums have so far been of little use. Can climate do anything? In both these diseases series of observations on this point are needed. In relation to the former I may add that the effects of climate on chorea are little known.

In the septic arthritis of which the central origin is uterine the thorough use of baths and climate seems better than any other method of treatment known to us and in carrying it out the very slow extinction of certain races of micro-organisms should be borne in mind. In going round the wards, what cases, in spite of modern investigations as to diet, move more slowly towards recovery than those of chronic nephritis of scarlatinal or of acute origin? When we consider the effects of changes of temperature and of wind upon the kidney in health it is easy at least to hope that a more minute study of climate as an agent in the treatment of progressive nephritis of acute origin may lead to satisfactory results.

When members of your society walk through the grounds or the quadrangle of a hospital at the present day and see the numerous patients placed upon stretchers in the open air you must feel that air and therefore locality and climatology have a meaning in our time far beyond that of any previous age. Such a society as yours can do much to add to exact knowledge in this promising field of therapeutics. Hippocrates had before him a few countries round the Mediterranean. You have the whole world before you. The day of climatologists has indeed arrived. It is for them to pursue their study with scientific precision and they will certainly attain knowledge of the greatest importance in regard to the treatment of disease.

I began this address with an account of the earliest book on your subject and I may end it with a quotation from that book, which shows that the consideration of air, water, and situation, or, as you put it, balneology and climatology, was esteemed one of the most important parts of medicine by the greatest physician of the most thinking nation of antiquity. Hippocrates says:—

> He who proposes to make exact researches in medicine, ought first to consider the effects which each season of the year can produce. For far from being the same, they differ greatly one from the other, as also each particular one differs from itself, according to the divers vicissitudes which it can undergo. He must, in the second place, know the nature of hot winds and cold winds; firstly, of those that are common to all the inhabitants of earth, and, afterwards, of those which prevail specially in each country. It is no less necessary for him to know the qualities of waters, which differ as much in their virtues as they do in their taste and in their weight.

At the present day physicians tend more and more to study the effects of air, water and situation, and to recognise their therapeutic importance.

GREAT NORTHERN CENTRAL HOSPITAL.—An attempt is being made at this hospital to utilise the large amount of clinical material which is available for the purpose of teaching and study. A course of clinical lectures has been arranged and the wards and out-patient departments are open to students and practitioners of medicine. Demonstrations are given at regular hours.

ON SOME VITAL PROPERTIES OF MILK.

BY MYER COPLANS, M.D. LOND., D.P.H. CAMB.,
DEMONSTRATOR OF BACTERIOLOGY IN THE UNIVERSITY OF LEEDS.
(*From the Department of Pathology, University of Leeds.*)

PART I.

THE following series of experiments arose out of a desire to investigate the comparative reactions of new milk, stale milk, frozen milk, and boiled milk towards organisms which, though capable of flourishing in milk both at air temperature and blood heat, occur normally in the alimentary tract. In order to insure a ready supply of milk free from contamination or added preservative substances, a recently delivered animal was obtained and kept on the premises: it was stall fed. The milk used throughout the experiment was obtained directly from this animal. The test organism used was bacillus coli (Escherich). The history of the special strain employed is as follows: It had been propagated in the laboratory of the School of Medicine of the University of Leeds for a year at least; once a fortnight it had been transplanted on fresh agar media, which had been kept at 40° C. for 18 hours, then allowed to remain at room temperature for the remainder of the fortnightly period, and so on. It had never been passed through milk. For these experiments one particular colony was picked off from a culture made on neutral-red bile-salt lactose-agar, and thereafter the strain was propagated afresh as required.

Experiment 1.—To Determine the Relative Rate of Growth of Bacilli Coli on New Milk and Boiled Milk respectively, at Air Temperature.

Protocol.—1. New milk obtained from the animal under ordinary aseptic precautions cooled to air temperature *immediately* following milking. 2. Boiled milk obtained by heating new milk in Koch's steamer two successive days for 1 hour at 100° C. 3. Culture of bacilli coli in broth incubated at 40° C. Number of organisms present, estimated previous evening by method of plating, and to insure no further increase of growth, pending completion of estimation, culture was placed in refrigerator against ice. 4. New milk and boiled milk after inoculation kept at air temperature.

The experiment.—Equal quantities of bacilli coli added to 100 cubic centimetres of boiled and new milk respectively and the milks plated at intervals on lactose-bile salt agar and other media.

TABLE I.—*Giving the Rates of Increase of Bacilli Coli during Different Periods of Time.*

—	Hours.			
	1-6	1-24	24-48	1-48
New milk ...	Decrease ¼.	230	563	129,490
Boiled milk ...	No change.	4550	40	182,000

Some points for consideration:—1. The diminution in numbers of bacilli coli in new milk for hours 1-6 may be capable of explanation on grounds of bactericidal activity of the perfectly fresh milk. 2. The arrest of growth in boiled milk for hours 1-6 appeared to be incapable of such explanation; at first sight no explanation offers itself. 3. During hours 1-24 at air temperature the rate of increase of bacilli coli in boiled milk is 20 times as great as obtains in new milk. This phenomenon is capable of explanation as follows. (*a*) the presence of organisms in new milk other than bacilli coli may exercise a restraining effect on the growth of bacilli coli; such organisms are absent in boiled milk. (*b*) The bactericidal power of new milk as discussed in Point 1 may persist in an attenuated form and act as a restraining or partially inhibitory power. 4. The rate of growth of bacilli coli in new milk at the end of 24 hours approximates that in boiled milk during hours 6-24; the bactericido-inhibitory effect mentioned under Points 1 and 3 (*b* appears to have waned considerably. 5. The comparatively small rate of increase in sterile milk at hours 24-48 may be accounted for by the fact that organisms have a definite size and occupy a definite space; a given quantity of fluid cannot harbour more than a definite number of organisms. Further, it is probable that the products of

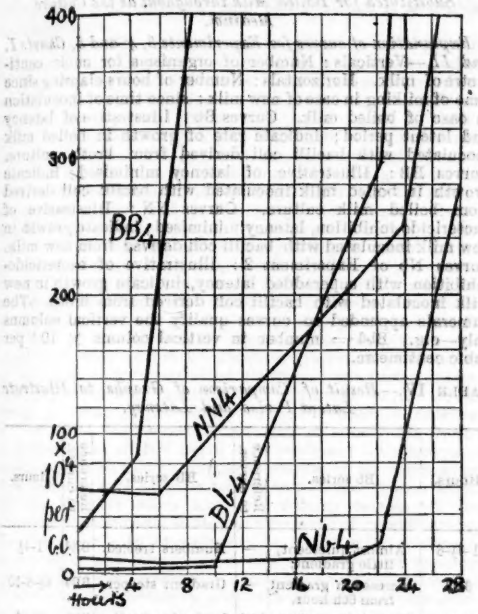
activity of the organisms may now be sufficient to exercise a retarding effect on the further rapid growth of the organisms. 6. The ratio of the bacilli coli present in new milk at the end of 48 hours as compared with boiled milk, viz., $\frac{130}{182} = 0{\cdot}71$, would indicate that the numbers of organisms present in new milk other than bacilli coli can have had but little effect in accounting for the phenomena in Point 3. With a view to further elucidating these several points the experiments were modified and repeated.

Experiment 2.

Protocol.—1. New milk obtained as before and sown with bacilli coli obtained from broth culture of bacilli coli incubated at 20° C. and chilled overnight. 2. The new milk thereafter kept at 20° C.

Series of curves.—Nb4 and Nb6 represent increase of organisms as tested on lactose-bile-salt agar, agar and gelatin

CHART 1.



Experiments 2, 3, 4, and 5 at air temperature illustrating latency and inhibition. BB, Curve for growth in boiled milk inoculated from boiled milk culture of bacillus coli (latency minimised). Bb, Curve for growth in boiled milk inoculated from broth culture of bacillus coli (latency illustrated). NN, Curve for growth in new milk inoculated from new milk culture of bacillus coli (latency minimised; bactericido-inhibitory effect illustrated). Nb, Curve for growth in new milk inoculated from broth culture of bacillus coli (latency and bactericido-inhibitory effect combined illustrated).

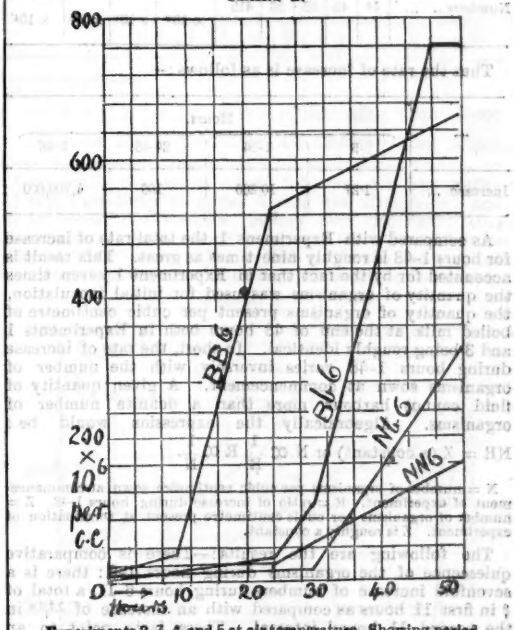
media respectively, in absolute numbers. The vertical heights represent absolute numbers $\times 10^4$ and $\times 10^6$ respectively as indicated. The horizontal numerals represent hours that have elapsed since milking time. The bacilli coli organisms likewise appear in the curves representing organisms which flourish respectively at air temperature and blood heat.

TABLE II.—*Giving the Rates of Increase of Organisms during Different Periods of Time.*

	Hours.			
	1-6	1-24	24-48	1-48
Bacilli coli	Diminution = $\frac{1}{10}$	1928	625	1,200,000
Organisms which flourish at air temperature (= A)	4	2770	9	24,930
Organisms which flourish at blood heat (= B)	11	?	—	—

The following are points for consideration arising from a study of these data. 1. (*a* i.) New milk, despite aseptic precautions observed at the time of milking, contains per cubic centimetre 200 organisms, which flourish at air temperature (A) and 1000 which flourish at blood heat (B)—a total of 1200 per cubic centimetre. (*a* ii.) As in Experiment 1 with reference to the added bacilli coli, there is a stay of growth during the first six hours with slight diminution of the numbers present, pointing to a bactericido-inhibitory activity of the new milk. (*b*) The A organisms undergo no increase in numbers for a period of four hours; the period immediately ensuing shows a rapid increase and thereafter they are always in excess of the B organisms, for there is manifested an increase of $\frac{1}{4}$ during hours 1–6, and during hours 1–24 the ratio is $\frac{2770}{11}$, which again points to the factor of comparative restraint of growth. (*c*) This restraining factor again appears in the result of the growth of organisms other than bacilli coli which flourish on agar at blood heat, for their numbers do not show any increase for five hours following

CHART 2.



Experiments 2, 3, 4, and 5 at air temperature. Showing period of maximal growth of organisms in boiled and new milk respectively as illustrating the effects of latency and inhibition. Nomenclature for curves as in Chart 1.

milking; thereafter they increase but slightly and after the thirtieth hour they are insignificant. 2. No evidence is here available for consideration of phenomenon 2 in Experiment 1. 3. Bacilli coli present during hours 6–48 manifest a markedly adverse influence of growth of remaining organisms. (*a* i.) Such organisms as grow at blood heat would seem almost to disappear. (*a* ii.) Those organisms which flourish best at air temperature as shown by the gelatin plates show an increase of growth during hours 18–24; hours 24–48 show a marked diminution in rate of increase, due probably to the restraining effects of products of activity caused by bacilli coli present. These cold-growing organisms would normally have the effect of overgrowing and restraining other organisms which flourish at blood heat, a fact which is tersely expressed by the statement that new milk kept at air temperature normally goes sour, due to the preponderance of bacilli acidi lactici. Thus this experiment affords ample internal evidence for excluding Point 3 (*a*), Experiment 1, relating to the point made that organisms present other than bacilli coli might account for the comparatively low rate of increase in new milk during hours 1–24, as compared with that of boiled milk and Point 3 (*b*), Experiment 1, must hold—viz., the persistence of a bactericido-inhibitory power in an attenuated form in the new milk from hours 6–24. This confirmation is

strengthened by Point 6, Experiment 1. 4. There are remarkably sudden increases in the gradients at the sixth, twelfth, twentieth, twenty-fourth, and thirtieth hours respectively. The phenomena cannot be due to the addition of extraneous organisms, for all reasonable precautions were taken to prevent such addition.

Experiment 3.—To Elucidate the Quiescence of Organisms observed in Experiment 1 and considered under Point 2.

Protocol.—1. Boiled milk obtained as before sown with bacilli coli derived from a broth culture which had been chilled overnight after being incubated previously at 20° C. 2. The boiled milk thereafter kept at air temperature (20° C.) and plated at intervals.

TABLE III.—*Showing Increase of Growth of Bacilli Coli.*

	Hours of incubation.								
—	1	2	5	6	11	22½	24	30	48
Numbers... ...	44	45	53	56	415	3200 × 10^3	4500 × 10^3	8500 × 10^4	75,000 × 10^4

Thus the rate of increase is as follows:—

	Hours.			
—	1-6	1-24	24-48	1-48
Increase ...	1·27	10,200	166	1,700,000

As compared with Experiment 1 the total rate of increase for hours 1–48 is roughly nine times as great. This result is accounted for by the fact that in Experiment 1 seven times the quantity of organisms was used for initial inoculation, the quantity of organisms present per cubic centimetre of boiled milk at the end of 48 hours both in Experiments 1 and 3 being roughly identical. In short, the rate of increase during hours 1–48 varies inversely with the number of organisms sown at commencement. A given quantity of fluid cannot harbour more than a definite number of organisms. Algebraically the expression would be: $NR = Z$ (a constant) or $N \propto \frac{1}{R}$, $R \propto \frac{1}{N}$.

N = number of organisms per cubic centimetre sown at commencement of experiment. R = ratio of increase during hours 1–48. Z = number of organisms per cubic centimetre present at termination of experiment. Z is roughly a constant.

The following are the results:—There is comparative quiescence of the organisms during hours 1–6; there is a sevenfold increase of numbers during hours 6–11, a total of ⅛ in first 11 hours as compared with an increase of $\frac{17 \cdot 0 \cdot 0}{7}$ in the second 11 hours' interval. These facts point to an increasing rate of growth of organisms and the passing away of some influence, which in the beginning was signalised by quiescence, later by a period of slow growth, last of all by several stages of rapidly increasing and apparently unrestrained growth of the organism (as shown by curves Bb5, Bb6). The growth of similar organisms in new milk in Experiments 1 and 3 is distinguishable by these facts: (*a*) absolute quiescence coupled with slight diminution for 1–6 hours; (*b*) slowly increasing growth for hours 6–24, which never reaches the rate of growth as occur in boiled milk, save after the twenty-fourth hour, when the rate of increase in new milk approaches a sub-maximal rate for that of boiled milk. The factor producing the quiescence and subsequent phenomena in boiled milk appears to be of a different order from that observed in new milk. An explanation might be found in the fact that with the increasing growth of organisms in boiled milk there would be a concomitant increase of acidity of the medium which is more favourable to the growth of the organisms. Such argument would apply with equal cogency to growth in new milk and is promptly negatived, since no such rapidly increasing growth occurs. Finally, this phenomenon of quiescence, absolute in the beginning, later but comparative, and then rapidly wearing off with the efflux of time, may be explained by the consideration that in transferring the organism from chilled broth to boiled milk at air temperature the change of environment is so extreme that the organisms become latent for a certain period, that with efflux of time the organism becomes increasingly accustomed to the change of food and temperature and the latency ceases to be absolute, becomes partial, and rapidly passes away. Thus, if this be the true explanation, the phenomenon of latent period and of comparative latency should be reduced to a minimum if, instead of inoculating boiled milk at air temperature from a culture of bacillus coli in chilled broth, a culture of bacillus coli in boiled milk at air temperature had been used.

Experiment 4.—To Establish the Cause of the Phenomena of Latency and Latent Period in Boiled Milk.

Protocol.—1. Boiled milk obtained as before was sown with a culture of bacilli coli out of boiled milk which had been kept at air temperature for 24 hours. 2. The newly inoculated boiled milk kept at air temperature. Plating at intervals.

Experiment 5.—As for Experiment 4, save that New Milk was Substituted for Boiled Milk throughout as the Culture Medium.

Explanation of curves for Experiments 3, 4 and 5, Charts I. and II.—Verticals: Number of organisms for cubic centimetre of milk. Horizontals: Number of hours elapsing since time of milking in case of new milk; since time of inoculation in case of boiled milk. Curves Bb: Illustrative of latency and latent period; indicate rate of growth in boiled milk inoculated with bacilli coli derived from broth culture. Curves BB: Illustrative of latency minimised; indicate growth in boiled milk inoculated with bacilli coli derived from boiled milk culture. Curves NN: Illustrative of bactericido-inhibition, latency minimised; indicate growth in new milk inoculated with bacilli coli derived from new milk. Curves Nb of Experiment 2: Illustrative of bactericido-inhibition with superadded latency, indicate growth in new milk inoculated with bacilli coli derived from broth. The numerals appended to curves qualify the vertical columns only—e.g., Bb4 = number in vertical column × 10^4 per cubic centimetre.

TABLE IV.—*Result of Comparison of Graphs, to Illustrate Latent Period and Latency.*

Hours.	Bb series.	Reference to curves.	BB series.	Reference to curves.	Hours.
1-4½-6	Almost quiescent, little gradient.	—	Numbers trebled.	BB4	1-4½
6-11	Increase in gradient from 6th hour.	—	Gradient steeper.	BB4	4½-6-10
11-22½	Increase in gradient from 11th hour.	Bb4	Increasing gradient which is parallel to gradient of Bb hours 30-48.	BB6 and Bb6	10-24
22½-24	Increase in gradient from 22½ hour.	Bb4			
30-40-48	Increase in gradient from 30th hour.	Bb6	Slight gradient.	—	24th to time of clotting.
48 (time of clotting).	Little change in numbers.	Bb6	Gradients cross about 44th hour.	BB6	

Hence the latent period and latency apparent from Bb and BB series of curves must be due to the change of medium and temperature—i.e., from chilled broth to boiled milk air-cooled—for the phenomena almost disappear when there is little change of medium or temperature. The expression "almost disappear" is used advisedly, for a study of curves BB4 and BB6 shows sudden increases in gradient about the end of hours 4, 5, and 10 respectively from the time of inoculation. I consider this a phenomenon of partial or minimised latency, for it must be borne in mind that the boiled milk from which the bacilli coli were derived had become acid in reaction, a condition which appears always in association with the period of optimum growth of bacilli coli in boiled milk, while the fresh-boiled milk-test medium to which these bacilli coli were transferred was neutral in reaction. Hence the minimum latency here apparent must be due, in part at any rate, to the diminished acidity of the freshly inoculated boiled milk. This minimum latency is marked during the first four hours of incubation; it can be but slight during the fourth to tenth hours and is not traceable at any subsequent period. Contrasted, on the other hand, with boiled milk inoculated with bacilli coli

derived from broth medium there is a latent period of six hours with an insignificant change in numbers; then ensues the period of latency, for the maximum gradient is not attained before the thirtieth hour (Bb6), whereas in BB6 it appeared at the tenth hour. Hence the phenomena latent period and latency, due to change of medium, milk following broth, extended over a total of 30 hours, whereas in the case of boiled milk inoculated from boiled milk culture the minimum latency observable lasted but ten hours, there being no absolute latent period. Again, the marked difference in intensity of latency in the BB and Bb curves is plain; it is mensurable graphically from the data supplied by the curves, vertical and base lines.

In general curves BB, NN possess in common a factor of minimised latency; for curves NN, however, organisms other than the bacilli coli were present; they may have exercised an influence adverse to the rate of development of bacilli coli, but I have already given internal evidence under Experiment 2, Point 3 *a* (ii.) and Experiment 1, Point 6, for disregarding their influence; and like evidence is available in this instance.

In new milk NN curves show a complete arrest of growth for hours 1-6; moreover, there has been a slight diminution (NN4). During hours 6-24 there is an increase of numbers shown by increase of gradient. The persistence of minimum latency even if present during this period cannot be determined. After the twenty-fourth hour there is an increase in the gradient, and the gradient showing rate of increase becomes parallel for the first time with the gradient for boiled milk, although at the twenty-fourth hour the rate of increase in boiled milk is somewhat submaximal. Hence certain facts are demonstrable from these NN curves as compared with BB curves, all factors relating to latent period and latency having been minimised. 1. *New milk possesses certain pr perties (not possessed by boiled milk) which is manifested towards certain organisms as a process of inhibition of growth, absolute in the b ginning, later partial only.* In the case of the new milk used in this experiment and bacilli coli, this quality of absolute inhibition persisted at air temperature for a period of six hours; the partial inhibition following was manifest for a further period of 18 hours, a total of 24 hours from the time of milking. 2. The slight diminution in numbers so observable at the commencement of NN curve was confirmed by subsequent experiments and this phenomenon admits of no explanation save that *new milk possesses certain bactericidal powers* which for the first six hours not only destroy certain of the organisms but are able to stay any increase of growth among the remainder. In experiments on boiled milk relating to latent period and latency no actual diminution of numbers of organisms was observed. *Hence the conclusion arises that these bactericido-inhibitory properties of new milk are vital; they are destroyed in the process of boiling and wane with the lapse of time.*

If BB and Bb series of curves be compared, the masking effects of latent period and latency become evident, for at first sight the boiled milk would seem to possess a latent period which bears at any rate in point of time a close resemblance to the period of absolute inhibition of new milk. So is there a superficial similarity between latency and partial inhibition.

In future I propose to use the term "latency" in the general sense as covering both the terms "latent period" and "latency" used previously in this paper. "Inhibition" will be used likewise in a general sense as covering the terms "bactericido inhibition," "absolute inhibition," and "partial inhibition" as applied to the properties of new milk.

If now Bb and BB series of curves be contrasted, likewise the Nb and NN series, the effects of latency and inhibition respectively which at first sight so resembled one another as to confuse or mask their several effects become clear. The effect of latency is to give to the Bb series five sudden changes in gradient—before the maximum gradient at the thirtieth hour is reached, whereas BB series there are but two changes, one at the sixth hour and one slight change at the tenth hour, when the maximum gradient is reached. So with the Nb and NN series. Latency has the effect on the Nb series of showing increases of gradient which are more numerous than the NN series, a phenomenon which is better displayed when larger numbers of curves are constructed to show in detail gradients for very short periods. *The effect of waning latency is to lend colour to the highly erroneous interpretation that extraneous organisms have been added at frequent intervals.* In brief, the phenomena of latency and inhibition are due to causes entirely different; they possess no feature in common, for while *latency* is due solely to change in the environment of the organism *inhibition* is a property of new milk, it possesses vital characteristics, for it wanes with the efflux of time and is rapidly destroyed by heating. Latency and inhibition may exist independently or concomitantly, the effects masking or aiding one another.

The maximum bactericidal effect observed in Experiment 1 may now be explained on the ground of specially lowered resistance of the added organisms, due to their alternate exposure to extremes of temperature—viz., blood heat and freezing point. Further, to illustrate these phenomena of inhibition Experiments 6, 7, and 8 were undertaken.

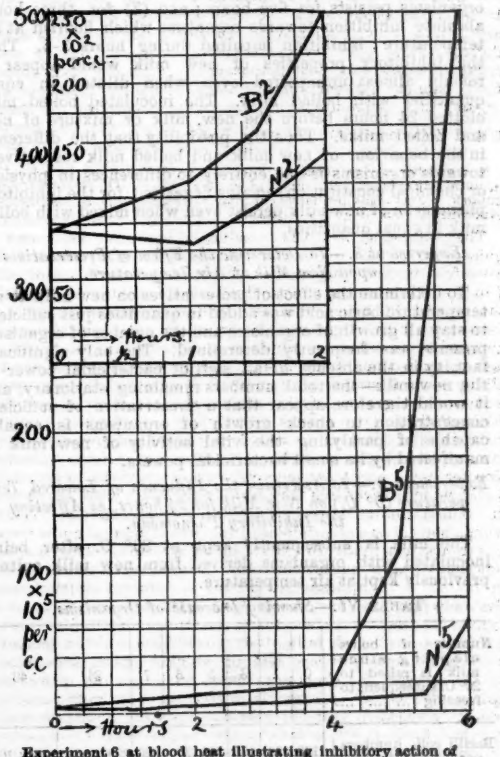
Experiment 6.—To Ascertain the Effect of New Milk at Blood Heat on Bacilli Coli derived from a Culture of Bacilli Coli in New Milk Incubated at Blood Heat as Compared with Growth in Boiled Milk at Blood Heat of Bacilli Coli derived from Blood Heat Culture of Bacilli Coli in Boiled Milk.

TABLE V.—*Showing Rate of Increase of Bacilli Coli.*

—	Hours.								
	0	½	1	1½	2	3	4	5	6
Numbers present per $\frac{1}{100}$ c.c.:—									
New milk ...	92	91	88	113	153	920	3,200	10,000	40,000
Boiled milk ...	92	112	131	162	250	1250	14,400	120,000	500,000

Graphically the results are as follows. For new milk: (1) slight bactericidal power during the first hour; and (2) inhibition (i.) absolute, lasting over one hour; (ii.) almost absolute for a second hour; and (iii.) partial for the following four hours. For boiled milk, the absence of bactericidal power and inhibition. The slight increase in

CHART 3.



Experiment 6 at blood heat illustrating inhibitory action of new milk. B2 and B5 curves illustrating growth of organisms in boiled milk, latency reduced. N2 and N5 curves illustrating growth of organisms in new milk, bactericido-inhibitory effect illustrated, latency reduced. Verticals illustrate number of organisms per cubic centimetre. Horizontals, hours of incubation = period elapsing since the time of milking.

growth during the early portion of the experiment is explicable on the ground of latency due to transfer of organisms from an acid medium to one comparatively neutral in reaction. The graphic representation of these figures shows that the curve for new milk does not become parallel with that for boiled milk until about the sixth hour, when all inhibition would appear to be lost. In this experiment the boiled milk was malodorous at the end of six hours; at the end of 24 hours it was clotted; the new milk, however, was not malodorous at the end of six hours and remained liquid at the end of 24 hours. At the temperature of this experiment organisms which usually flourish best at air temperature, notably bacilli acidi lactici, appear to develop but slightly and the added organisms bacilli coli preponderated over all other organisms. Thus the inhibitory effect of the new milk on the added organisms stood out in bold relief, amply confirming facts and arguments previously employed. Throughout the experiment at blood heat latency was minimised and the comparatively rapid increase of growth in boiled milk was not masked. The principle of the method of reducing latency was employed in this, as in previous experiments.

Experiment 7.—To Ascertain the Effect of a Mixture of Boiled Milk and New Milk in Equal Parts, Boiled Milk and New Milk respectively on the Growth of Organisms containing Bacilli Coli derived from New Milk Culture at 20° C.; Fluids kept at Air Temperature Subsequent to Inoculation.

The results were as follows. For new milk (1) for six hours absolute inhibition towards bacilli coli and other blood-heat growing organisms; and (2) for five hours absolute inhibition with some reduction in numbers for organisms which flourish at air temperature. For boiled milk there is an increase from the beginning in all species of organisms present; the increase in the cold growing organisms as shown by the agar plates is remarkable. For the mixture of boiled and new milk: (1) inhibition towards bacilli coli persists absolute for six hours and towards other blood-heat-organisms persists for five hours; and (2) for three hours absolute inhibition towards organisms which flourish at air temperature; inhibition impaired during hours 3–5. Thus the inhibitory properties of new milk would appear to remain almost unimpaired even when diluted in equal quantities with boiled milk. The inoculated boiled milk clotted 24 hours before the new milk or mixture of new and boiled milks. Thus the possibility that the difference in the behaviour of new milk and boiled milk respectively towards organisms is due entirely to differences in physical or chemical constitution remains negatived, for the inhibitory phenomena of new milk persist even when mixed with boiled milk in equal quantities.

Experiment 8.—To Determine the Effect of Preservatives upon New Milk at Air Temperature.

To determine the effect of preservatives on new milk at air temperature boric acid was added in quantities just sufficient to stay all growth of organisms and the number of organisms present was frequently determined. The only significant fact lay in the absence of all sign of bactericidal power of the new milk—the total numbers remaining stationary, and it would therefore appear that a preservative of sufficient concentration to check growth of organisms is equally capable of paralysing the vital activity of new milk as manifested by its small bactericidal powers.

Experiment 9.—To Ascertain the Influence of Lowered Temperature (0° C.) on New Milk for 24 hours, as Affecting the Inhibitory Phenomena.

The milk is subsequently kept at 20° C. after being inoculated with organisms derived from new milk culture previously kept at air temperature.

TABLE VI.—*Showing Increase of Organisms.*

Number of hours elapsing since milk is raised to 20° C. subsequent to freezing	0	1	3	5	6	7	24	48
Bacilli coli, numbers per cubic centimetre	125	120	120	280	370	620	230×10^4	16×10^6
Rate of increase ...	Hours 0–3 = slight diminution.		3–6 = $\frac{1}{2}$			6–24 = 4000		24–48 = $\frac{1}{4}$

These results show that at the end of 24 hours' refrigeration (1) there persists slight bactericidal power during the first three hours; (2) the period of absolute inhibition is reduced by one-half to three hours; and (3) the period of partial inhibition is correspondingly much reduced. Milk chilled for 24 hours therefore possesses its inhibitory powers impaired and is intermediate in its behaviour between new milk and boiled milk. The precise period of partial inhibition could not be determined as the animal suddenly ceased to give milk; by inference only, the reduction in period was estimated at about one-half of the normal period of partial inhibition.

Experiment 10.—To Test the Age of Milk from the Time of Milking, assuming that Milk had been Cooled to Air Temperature immediately following Milking.

Protocol.—Some bacilli coli of minimised latency obtained and inoculated into the test milk and boiled milks respectively, both milks being kept at air temperature. Curves plotted to show increase in growth in respective milks. A persistence of absolute inhibition in test milk for x hours shows the age of the milk to be about six $- x$ hours old at the time of inoculation. If y hours elapse before the maximum gradient of the curve for test milk is reached the age of the milk is roughly $24 - y$ hours. A comparison with the curve for boiled milk will give confirmation of the results. The number 6 corresponds with the period of absolute inhibition in new milk and the number 24 with the absolute + partial inhibition in new milk. If, however, the number of organisms present in the test milk be so numerous as to overwhelm the number added the disparity will be maintained and the results will be useless. The organisms added should equal at least the number already present. The results, when positive, show the age of the milk in hours as either 1—6, 6—24, or over 24 hours.

Summary of Part I.

A.—The various experiments quoted show that the factors controlling the growth of organisms in milk are explicable on the grounds of latency and inhibition.

Inhibition is a vital property of new milk; it is manifested as a bactericido-inhibitory power towards certain organisms, as follows: 1. At air temperature (20° C.), slightly bactericidal and absolutely inhibitory for a period of six hours following milking; partially inhibitory for a further period of 18 hours. 2. At blood heat slightly bactericidal and absolutely inhibitory for a period of one hour; slight growth only in the following hour; partial inhibition during hours 2–6. 3. At 0° C. for 24 hours; then, when raised to air temperature, absolute inhibition and bactericidal power persist for three hours; partial inhibition for a further period of nine hours. The standard for the rate of increase without inhibition is that which occurs in inoculated boiled milk incubated at like temperature with minimised latency.

Latency.—This in general indicates the series of phenomena latent period and comparative latency (or quiescence absolute and relative), which first characterises the growth of organisms when there is alteration in environment—e.g., food-supply, acidity, or temperature. Phenomena of expiring latency have the effect of giving rise to the erroneous belief that there have been several additions of organisms to the milk under investigation, by reason of the sudden increases in numbers at frequent intervals. Latency and inhibition may exist independently or side by side, increasing or masking their several effects.

B.—The action of preservatives is to damage the bactericido-inhibitory action of milk as well as to restrain the growth of organisms.

C.—The facts relating to bactericido-inhibitory action of new milk form the basis of a method for estimating within certain limits the period that has elapsed since the time of milking.

PART II.

The foregoing experiments relating to inhibition as applied to new milk open a field for research, firstly as to the proximate constituents of the milk responsible for the phenomena, next to an estimation of these properties in human as compared with other varieties of milk, and lastly as to the means by which these properties may be augmented towards certain pathogenic organisms, such as bacillus typhosus, vibrio choleræ, bacillus dysenteriæ, and more especially the organisms giving rise to various forms of infantile diarrhœa. As to the cause of zymotic enteritis and bowel disturbances of lesser degree in infants, all available evidence is overwhelming in associating the conditions

with bottle-feeding as opposed to breast-feeding; nor is there any reasonable doubt that while stale milk (i.e., milk containing many micro-organisms and their products of growth) is capable of setting up bowel disturbance in infants, boiled milk by itself is of little curative value. Let the conditions attending the feeding of infants by (1) breast milk; (2) new milk; (3) boiled milk; and (4) preserved milk respectively be considered in their relationship to zymotic enteritis; let it be granted that in each case the specific organisms have gained access to the bowel and that the factor of latency, with the lapse of time, has been reduced to a minimum. The infant has a feed two-hourly, milk having been kept at air temperature.

1. *Breast milk.*—The experiment of incubating milk at blood heat shows that inhibitory phenomena are absolute for more than one hour and almost absolute for the hour ensuing. The process of digestion has, in the meantime, taken place and the milk is clotted. Result: the organisms have little opportunity of increasing, for they are acted upon both by the body juices and the bactericido-inhibitory action of the milk. Their numbers are diminished. With the next feed the process is repeated and the numbers still further diminished.

2. *New milk* (as delivered to the household twice daily, say, at regular intervals of 12 hours).—Let it be assumed that the milk is delivered immediately following milking, that aseptic precautions were observed at the time of milking, and that directly after milking the milk cooled to air temperature, 20° C. Absolute inhibition lasts but six hours at air temperature, therefore for one-half of the number of feeds—i.e., hours 6 to 12 following the delivery of the milk—the new milk acts as a medium for the comparatively unrestrained growth of organisms, and during such period the conditions apply as in the case of boiled milk. Consider a cycle of feeds during hours 1 to 6 following the delivery of the milk. First feed: the conditions apply as in the case of a feed with breast milk. The number of organisms is slightly diminished. Second feed: the milk will retain its absolute inhibition for four hours at air temperature, and proportionately rather longer than one hour at body temperature. Therefore, one hour after the second feed inhibition on the part of the milk in the stomach has ceased and the digestive juices of the body must serve to keep the organisms at bay for the remaining hour. Third feed: similarly, absolute inhibition lasts for half an hour only at body temperature; for the remaining one and a half hours the body juices alone must hold the organisms in check. Fourth, fifth, and sixth feeds: the milk possesses no bactericidal or absolutely inhibitory powers. The organisms must increase rapidly: the body juices are unaided in staying the increase of growth of pathogenic organisms. Thus only for a period of three and a half hours out of every 12 hours are the body juices aided in arresting the growth of organisms.

3. *Boiled milk.*—There is no restraint of growth on the part of the milk. The organisms are checked only by the action of the digestive juices.

4. *Preserved milk.*—If the milk be freshly drawn the preservative will paralyse the bactericidal and *inferentially* the inhibitory power of the milk; in the stomach the preservative is rapidly absorbed and the milk is diluted, the check on the growth of organisms is removed, firstly, by the dilution of the preservative and, secondly, by its absorption from the bowel. The milk with its inhibitory power damaged is reduced to the level of boiled milk and acts as a medium for the unrestrained growth of organisms, save for the check of the digestive juices.

To sum up, in the case of the breast-fed infant every feed serves to hold at bay and diminish the number of organisms present in the stomach. With new milk under ideal conditions of collection and delivery to the household, for only three and a half hours out of 12 hours is the bactericido-inhibitory property effective. With boiled milk inhibition, absolute or partial, towards organisms on the part of the milk is entirely absent. With preserved milk, as soon as the percentage of preservative is lowered by dilution or absorption so that it ceases to check the growth of organisms the milk acts as in the case of boiled milk. With the presumption that the preservative is added at the time of milking and that the delivery of preserved milk takes place twice daily without delay and that the preservative has no harmful effect on the inhibitory power of the milk, nor is on its own account prejudicial to the infant, the effect would be as in the case of new milk. But the presumption that the preservative has no prejudicial effect to the inhibitory properties of milk is disproved by direct experiment and apart from the question of the toxic action of the preservative the milk acts as in the case of boiled milk and of itself affords no measure of protection against the growth of organisms in the bowel.

It would appear, therefore, from the observations on new milk kept at 0° C. that the only measure of protection against infection of the bowel by pathogenic organisms as an alternative to breast-feeding is to be found in feeding with new milk which has been previously kept at 0° C. from the time *immediately* following milking, for it has been shown that even after the lapse of 24 hours one half of the initial absolute inhibitory power remains.

The simple facts that the absolute inhibitory power of new milk persists at blood heat from one to two hours, at air temperature for six hours, and when raised to air temperature after being kept at freezing-point[1] for 24 hours for three hours, point significantly to the means to be employed in safeguarding milk for the consumer. They call for a reform in the present system of collection, carriage, storage, and distribution. For the dairyman, the absolute necessity of cooling milk to freezing point immediately after milking; special refrigerator vans for rail transport; and cold storage at the milk-seller's shop and in the household. By such methods alone can the inhibitory properties of new milk be preserved for the benefit of the bottle-fed infant.

In discussing the value of new milk in its relationship to absolute inhibition as applied to infant feeding in a case of zymotic enteritis most favourable conditions as to collection and delivery were assumed. The actuality often presents a different picture. Take, for instance, the farms in Gloucestershire, which supply new milk to the large towns of South Wales as well as to the metropolis. The new milk cannot reach the consumer's house under six hours; far more frequently it arrives at intervals of from 18 to 27 hours following milking, and in any case its quality of absolute inhibition has departed. In the manufacturing towns of the North milk cannot reach the consumer on an average under four hours, often enough the period is much greater. If there still persists a relic of its comparative inhibition it is a quality useless in the struggle against disease. The cowkeeper certainly cools his milk, for he knows it keeps better *while on his premises*, but the interval elapsing between the actual moment of milking in the cowshed or farmyard and the operation of the water cooler in the dairy if only for half an hour is sufficient to account for the waning of one-third of the absolute inhibition property. But the milk in its vagaries from cow to consumer undergoes various vicissitudes in its changes of temperature and it is no uncommon sight to see churns of milk standing for hours in the sun. As to minor organisms, often enough various additions take place all along the track from the cow's udder to the infant's feeding-bottle, for the macroscopic evidence is plain. I think the greatest contamination takes place at the time of milking and later in the household itself. Various plating tests in order to estimate the numbers and kinds of micro-organisms present in new milk at intervals between milking time and time of delivery show sudden rates of increase at various intervals, from which it might be inferred that there are definite stages at which organisms are added. Yet, if the facts of the foregoing experiments relating to latency be borne in mind, all these apparently sudden increases in number of organisms are phenomena of expiring latency for such organisms as gained access to the milk from external sources at and shortly after milking. The number of sudden changes is materially reduced when latency is reduced to a minimum and inhibition alone is a factor to be considered. Only the discovery of new kinds of micro-organisms at various stages would form incontrovertible evidence of fresh contamination.

It is clear that the factors relating to absolute and comparative inhibition may form the basis of a method for estimating within certain limits the period that has elapsed since the animal was milked; so also may the presence of a preservative be suspected when the rate of increase of organisms present is materially diminished. The phenomena of latency offer a field for research in other directions. A

[1] A parallel may be sought for in the case of the "keeping qualities" of frozen meat raised to air temperature as compared with freshly killed meat. There appears to be a conflict of opinion as to their respective merits and it is difficult to obtain an expression of views which shall be free of all possible bias. Given like specimens and "turning" weather many are of opinion that the thawed specimen "turns" first, but much would seem to depend upon the number of knives used in butchering and the subsequent exposure to contamination.

variety of bacillus coli isolated from an East Riding well water fermented at blood heat the commoner sugars within 18 hours, while dulcite remained unacted upon even after nine days; at air temperature the commoner sugars were fermented within two days, dulcite only after five days; some of the active dulcite growing organisms were then transferred to a fresh dulcite medium at air temperature, and the dulcite was at length fermented in two days, as with other sugars. From this dulcite culture organisms were transferred to fresh dulcite at blood heat and slight changes were observable after 24 hours. Thus, by this devious track it was possible to ferment dulcite at blood heat, whereas direct attempts had failed and continued to fail. Yet another instance illustrative of latency:—A laboratory variety of bacillus coli which did not ferment cane sugar at blood heat but readily fermented dulcite and the commoner sugars was kept at air temperature for 19 days when fermentation at length set in; the cane-sugar culture at blood heat, however, still remained inactive. The phenomena of latency would therefore appear to account for the difficulty in determining the precise origin of infection in such cases of disease as appear to arise *de novo*, while the phenomena of inhibition, as applied to new milk, would appear to have a parallel in the incubation period of zymotic disease as associated with man.

The clinician complains that though he looks to the laboratory for help often enough he is disappointed and sometimes betrayed, yet on the grounds of purest empiricism he can incur no risk in adopting such methods of feeding, prophylactic and otherwise, as are called for by the results of these experiments. For the infant in the struggle against disease following infection through the bowel there is clearly indicated first and foremost breast feeding in order that the maximum effect of the bactericido-inhibitory property of milk shall be fully secured. Next in order of value is bottle-feeding with new milk, such as is obtained under ideal conditions of early cooling, immediate delivery, and cool storage in uncontaminated vessels, although by this method the infant of necessity must be deprived of no less than three-fourths of the natural bactericido-inhibitory property of the breast milk.

Boiled milk can be of no value in staying the growth of organisms, while preserved milk functions as boiled milk in its behaviour towards organisms when dilution occurs or when there is absorption of the preservative from the bowel content; moreover, there is the added danger of the toxic effect of the absorbed preservative.

In discussing the value of bottle-feeding with new milk ideal conditions were assumed; even so, three-fourths of the special value of the breast milk were lost. Far different, however, are the conditions attending the milk-supply of large towns, for there is little doubt with bottle-feeding that practically the whole of the special quality of new milk and breast milk is lost to the infant population of large towns. As an alternative to breast feeding there would appear to be but one practical solution of the problem. The experiment of refrigerating milk immediately following milking and of storage at freezing point, with the result that when after 24 hours the milk is raised to air temperature it is found that one half of the original bactericido-inhibitory power persists, points plainly to the direction for reform needed in the present system attending the supply of new milk: a refrigerator-room for the dairy, insulated vans for rail transport, and cold storage in the house, such are the measures indicated if, indeed, there is to be a perceptible lowering in the mortality from infantile bowel-sickness.

[NOTE.—None of the negative observations here recorded appear to deal with milk during the first six hours following milking, nor is latency, as a factor, recognised.]

References.—Fokker, A. P., Fortschritte der Medicin, Band viii., 1890, S. 7. Klimmer, Archiv für Kinderheilkunde, 1903, Band xxxvii., p. 1. Sommerfield, P., Centralblatt für Bakteriologie, 1904, vol. xxxvii., p. 716.

AN exhibition of engineering models of all kinds, electrical, optical, and scientific instruments, technical education apparatus, and lathes, tools, and workshop appliances will be held at the Royal Horticultural Hall, Vincent-square, Westminster, London, S.W., from Oct. 22nd to 26th inclusive. Many of the models will be shown at work and scientific lectures and demonstrations will be given, the subjects including colour photography, sound waves, wireless telegraphy, gyroscopes, x rays, radium, electric welding, and other interesting items.

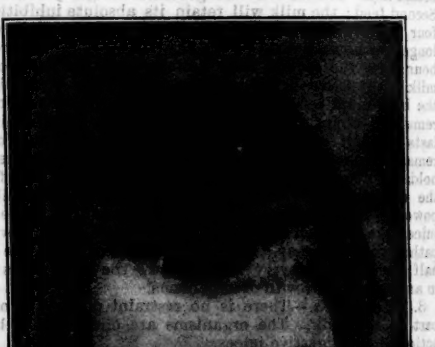
FRONTAL BAND ALOPECIA AS A POSSIBLE SIGN OF EXOPHTHALMIC GOITRE AND ASSOCIATED CONDITIONS.

BY DAVID WALSH, M.D. EDIN.,

SENIOR PHYSICIAN TO THE WESTERN SKIN HOSPITAL, LONDON, W., PHYSICIAN TO KENSINGTON GENERAL HOSPITAL, S.W.

THE object of the present communication is to draw attention to the occurrence of a congenital form of frontal band alopecia which appears possibly to be related to Graves's disease or exophthalmic goitre, on the one hand, and on the other to certain signs and symptoms connected with that malady.

Frequency of congenital frontal band alopecia and its definition.—I have not been able to find any reference to this form of band alopecia as a congenital condition. Hairlessness in this region appears to be a human infantile characteristic, but under conditions of normal development at a variable age the band becomes covered with hair; its persistence into later life constitutes the congenital frontal band alopecia or congenital high forehead now under notice. It is far more frequent in girls than in boys and in later years is apt to be more or less hidden in both sexes by the hair being brought over the forehead, but more especially in women. The band may be quite bald; more commonly it has a few short hairs as it nears the hairy scalp. It is almost invariably associated with bays that run backwards in a line with the frontal eminences; the bays are usually covered with a thin growth of hair; the whole band may be thinly covered with hair, or one side only may be thus covered and the other bare, or there may be a thin pencil of hair (see figure) on one or both sides, indicating where in normal circumstances the hairy scalp would have commenced. The band itself may be about half to one inch in width; it is situated at the anterior margin of the frontal portion of the scalp and stretches across from one frontal eminence to the other. It is not easy to lay down any exact line of normal limitation of scalp margin, but it may be regarded, as a rule, as extending to the upper half of the convexity of the frontal eminences. When the band is marked, or when it is



Frontal band alopecia in a girl, aged 12 years, with enlarged thyroid gland. Brother has similar band. Mother died from phthisis.

indicated by a partial anterior rim of hair, there can be no doubt as to its presence.

The significance of the congenital frontal band alopecia.—The congenital frontal band alopecia often runs in families and is hereditary. In one case an acquired frontal band was added to a pre-existing congenital band. In both children and adults I have found it constantly associated with enlargement of the thyroid and tachycardia, nervousness, pigmentation, chilblains, epistaxis, patchy baldness, and sometimes tremors, a condition that suggests potential Graves's disease. In 18 cases of exophthalmic goitre the congenital frontal band alopecia has been found present, and no negative instance has so far occurred. Out of six cases of myxœdema the frontal band alopecia was found in five, of whom two showed unequivocal and the other three less marked signs and symptoms of exophthalmic goitre. The sixth had no frontal band alopecia and nothing to suggest past or present Graves's disease.

So far some 96 cases of frontal band alopecia have been investigated. The present preliminary note is written with a view of inviting the attention of medical men who may be willing to help in further investigation of an interesting point. The band may possibly indicate some evolutionary change or may be degenerative or tropho-neurotic, or be a part of the obscure group of signs and symptoms associated with exophthalmic goitre. The age at which the hair grows over the frontal band area in normal cases is under investigation and will be determined by an examination of many hundreds of children outside the hospital class.

Bryanston-street, W.

A CASE OF
INTRAPARIETAL HERNIA WITH VERY SMALL PERITONEAL OPENING, GIVING RISE TO SEVERE ABDOMINAL PAIN.

BY JOHN A. C. MACEWEN, M.B., B.SC. GLASG., F.F.P.S. GLASG.,

SENIOR ASSISTANT TO REGIUS PROFESSOR OF SURGERY; ASSISTANT SURGEON, GLASGOW ROYAL INFIRMARY; SURGEON TO THE ELDER COTTAGE HOSPITAL, GOVAN.

THE patient, a married woman, aged 57 years, was seen by me in February at the Elder Hospital, Govan, complaining of abdominal pain, particularly at a point about midway between the umbilicus and symphysis and two inches to the right of the middle line. She stated that this pain began to trouble her about two years previously and that it had been gradually getting worse. It was aggravated by work and relieved by lying down and at times it was so severe as to cause sickness and faintness. She had already sought surgical advice but nothing had been detected which would account for the pain.

On examination the abdomen was found to be very pendulous and loaded with fat, rendering accurate palpation very difficult. The recti muscles were much displaced laterally. The patient had a small umbilical hernia which was not tender and gave rise to no discomfort; otherwise nothing could be made out save that over the site of the tender point it was thought that a slight thickening of the abdominal wall could be detected. This thickening, however, was indefinite and she was therefore asked to return for further examination at a later date. This she did and on examination while standing a large mass of about the size of the closed fist with a narrow pedicle extending toward the abdominal cavity was detected. The patient now lay down and when an attempt was made to grasp the tumour for the purpose of further examination there were a sudden slip and slight gurgle and the swelling disappeared. Up to the time of operation many further attempts were made to get the mass to reappear but without avail, only the feeling of slight thickening in the abdominal wall being discoverable.

Operation.—The small umbilical hernia, which was loculated, was first treated and then the abdominal incision was prolonged downwards in the middle line for about three inches and the inner surface of the abdominal wall was inspected. The finger, passing over the smooth peritoneal surface, detected just at the point previously indicated by the patient as painful a slight thickening, certainly not more than a quarter of an inch in diameter. The abdominal wall was now everted and close inspection revealed a small raised area with a minute central depression. So small was this depression that it was doubtful if it would admit a probe. Slight pressure with the point of the probe, however, served to gain access to what appeared to be a small sac in the abdominal wall. Dressing forceps were next tried and it was found that the minute mouth of the sac was extremely distensible, easily opening sufficiently to admit the finger, which penetrated a distance of one and a half inches when a little pressure was applied. An incision was now made round the mouth of the sac in the normal peritoneum and the sac, which then lay loosely in the abdominal wall, was dissected out. While very small when relaxed and, as already stated, possessing a very narrow mouth, it was capable of great distension, extending easily to the size of a Tangerine orange. A further point of interest was that the omentum, instead of lying in front of the coils of bowel, had become turned up, its free border being attached to the stomach and the whole being laden with fat. An attempt was made to remedy this and a redundant portion was removed. The wounds were now sutured, particular care being taken to secure accurate apposition of the cut peritoneal surfaces, and the patient was returned to bed. She made an uninterrupted recovery and has had no further trouble, the pain having quite disappeared.

The point of chief interest in this case is the extreme variability in the size of the sac which at times was very small, presenting a merely potential opening, while at others it was large and distended with bowel. The pain, on the other hand, while no doubt varying in degree, was constantly present save when the patient lay down, and thus one was faced by the problem of a patient suffering very considerable abdominal pain, particularly at a definite spot, in whom no definite lesion could be made out.

I have known patients suffering from small umbilical hernia state that at an early stage of the affection, before any prominent external tumour had appeared, they frequently had attacks of violent abdominal pain which compelled them to hold the abdomen with the hands while walking. In such cases I think the condition would be very similar to what was found in this one—a sac with a very narrow but distensible mouth. Probably the pain in such cases is due in part to nipping of a portion of the lumen of the bowel in the narrow mouth (causing the sickness and faintness referred to) and in part to the distension of the narrow mouth causing pressure on, and irritation of, the peripheral nerves.

Glasgow.

MULTIPLE FIBRO-MYXOMATA OF THE CHOROID PLEXUS.

BY MARGARET B. DOBSON, M.D. LOND.,

PATHOLOGIST TO THE WEST RIDING ASYLUM, WAKEFIELD.

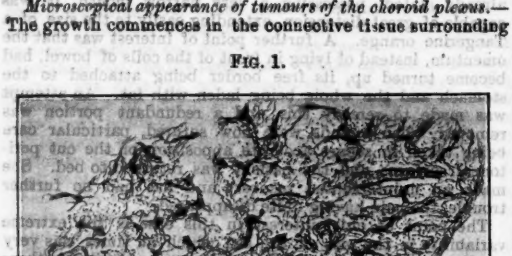
THE patient, a widow, aged 52 years, was admitted into the West Riding Asylum, Wakefield, in August, 1901, suffering from mania of some months' duration; she died in May, 1906, from tuberculosis of the lungs and intestines. Her form of mental disease at death was secondary dementia. Intemperance was the most potent etiological factor.

A necropsy was made 23½ hours after death. The skull was thick and dense; the diploë was almost obliterated. A rough deposit of new bone was found on the inner surface of the calvarium in the frontal region. The dura mater was thick and fibrous and firmly adherent to the skull in the frontal region. The Pacchionian bodies were greatly increased in size but not in numbers. The subdural space was distended with an excess of normal-looking cerebro-spinal fluid. The pia arachnoid was œdematous and gelatinous-looking all over the convexity of the brain, and milky opacities were seen along the course of the large veins. The sub-arachnoid meshes contained an excess of cerebro-spinal fluid. The brain weighed 1265 grammes. The hemispheres were symmetrical. The frontal lobes were much atrophied, the gyri being yellow in colour, somewhat angular and shrivelled, while the intervening sulci were shallow and gaped widely. The cortical surface was smooth and uneroded, and the general consistence of the brain was reduced. The lateral ventricles were both dilated and contained an excess of cerebro-spinal fluid. The ependymal lining was smooth and glistening; the vein of the corpus striatum was congested and tortuous. The

choroid plexus of each ventricle was œdematous and to a slight degree cystic. On the upper surface of the right choroid plexus, in its broadest part, eight small nodular, bright yellow coloured, pedunculated tumours were seen. The surface of each was smooth and glistening, and could be indented with the finger nail. A small, solitary, and similar growth was present on the under surface of the plexus. The diameter of the largest of these small tumours was four millimetres. Both lungs showed advanced tuberculous changes, and typical tuberculous ulceration of intestines was present. No pathological change of any interest was discovered in any other organ.

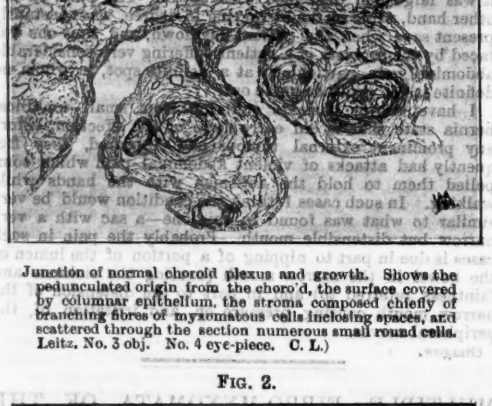
Microscopical appearance of tumours of the choroid plexus.—The growth commences in the connective tissue surrounding

FIG. 1.



Junction of normal choroid plexus and growth. Shows the pedunculated origin from the choroid, the surface covered by columnar epithelium, the stroma composed chiefly of branching fibres of myxomatous cells inclosing spaces, and scattered through the section numerous small round cells. Leitz. No. 3 obj. No. 4 eye-piece. C. L.)

FIG. 2.



From near the centre of growth. Shows large blood sinus with rudimentary walls; stroma of branching cells; large numerous myxomatous cells and small round cells. The stroma in the spaces contains a quantity of amorphous-looking débris. (Leitz. ½ obj. No. 4 eye-piece. C. L.)

the vessels of a villus. Its wall is composed of a thin sheath of dense connective tissue covered by an imperfect layer of cells. At the neck and base of the growth these cells are columnar in shape, while over the upper surface the epithelial covering becomes stretched, the cells being greatly elongated and in places absent. The interior of the growth is principally composed of large branching cells, myxomatous in character. At the base of the tumour these cells are large and full-bodied, the radiating processes being small; towards the periphery of growth the cell bodies become shrunken and degenerated, while the processes are long and wavy and freely interlace, giving the appearance of fibrous tissue. In one part of the peripheral portion of the growth the cells are so degenerated that spaces of varying size are formed. They contain débris and small round cells, together with red blood corpuscles. The outline of these spaces is formed by the fibres of the myxomatous cells. The tumour generally is very vascular and shows a number of blood-vessels bounded by a thin layer of fibrous tissue. At the neck two large blood-vessels are seen bounded by very rudimentary walls. In the intermediate zone of the growth numbers of small vessels, also with very rudimentary walls, are seen and the connective-tissue sheath of the growth contains numerous blood sinuses.

Remarks.—I am indebted to Mr. W. Bevan Lewis, medical director of the West Riding Asylum, Wakefield, for permission to publish this case. I have to thank Dr. W. Maule Smith, assistant medical officer to the West Riding Asylum, Wakefield, for his kindness in executing the camera lucida drawings illustrating the microscopical appearances of the choroid tumours above described. It is interesting to note that Ziegler in his "Text-book of Special Pathological Anatomy" mentions the fact that "myxoma of the internal meninges has been observed" and "angio-myxoma is not unknown"; he also states that "fibromata of the ventricular plexuses are very rare."

Wakefield.

AN INTERESTING CASE OF ACUTE INTESTINAL OBSTRUCTION.

BY HENRY J. CLARKE, JUN., M.A., M.B., B.C. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.

THE following case on which I operated presents two points of interest: (1) because the appendix was the cause of the obstruction; and (2) because the patient recovered after the obstruction had lasted for three days.

The patient was a boy, aged 11 years. One Saturday he was suddenly seized with a violent pain in the abdomen; constipation ensued, accompanied by sickness. When seen on Monday morning his face was pinched and drawn, the tongue was furred, the breath was foul, and his vomit was dark coloured but not actually fæcal. He vomited at frequent intervals. His temperature was subnormal and the pulse-rate was about 100. On examination his abdomen was found to be distended and the percussion note was tympanitic all over. Pain and tenderness were the most marked in the left iliac region.

Immediate operation was strongly urged but the parents decided to wait till the next day. On Tuesday the boy was extremely ill. His abdomen was still distended but dulness was now present over the left iliac region and his recti muscles were rigid. The parents now saw the gravity of the case and consented to operation.

Operation.—Ether was administered and during the whole of the operation the patient was kept only lightly under. The incision was made from just below the umbilicus to the pubes. On opening the peritoneal cavity a considerable amount of clear fluid escaped. Distended and congested coils of small intestine presented at the wound. The cæcum was then felt and found to be flaccid, thus showing that the obstruction was somewhere in the small intestine. Further search showed the tip of the appendix imbedded in the mesentery. Thus was formed a band under which the ileum was constricted. In the tip of the appendix was lodged a hard concretion. The appendix was then ligatured and cut through, the constricted gut thus being freed. The patient's condition was too bad for a more elaborate treatment of the appendix. On examination the gut was found to be black in several places but the intestinal wall had not lost its sheen. The abdomen was then filled with saline solution and closed. A rubber drain was left in for the first 24 hours and then removed.

The lad made an uninterrupted recovery, his bowels being opened by an injection on the following Friday. His further progress was uneventful.

Doncaster.

VICIOUS CIRCLE AFTER GASTRO-JEJUNOSTOMY; SUBSEQUENT LATERAL ANASTOMOSIS; RECOVERY.

BY COLIN KING, M.A., B.C. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.,

HOUSE PHYSICIAN, VICTORIA HOSPITAL FOR CHILDREN, CHELSEA; LATE HOUSE SURGEON, ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

FOR permission to publish the following notes I am indebted to Mr. Arthur Cooke, assistant surgeon to Addenbrooke's Hospital, Cambridge.

A man, aged 37 years, an ex-soldier and college kitchen porter, was admitted to a medical ward at Addenbrooke's Hospital, Cambridge, on March 19th, 1906, under the care of Dr. Laurence Humphry, suffering from symptoms of gastric ulcer. For six weeks previously to admission he had suffered from indigestion and had been subject to flatulence and pain in the epigastrium. The bowels had been constipated during this period and melæna had been present for one month. On the morning of March 18th (the day before admission) he was said to have vomited from two to three quarts of blood containing some blood clots. This was the first hæmatemesis that the patient had ever experienced. There was a history of indigestion with occasional attacks of vomiting which extended over a period of ten years. The patient's habits had been steady and the consumption of alcohol small. On admission the man, a well-developed subject, was extremely anæmic; no lump could be felt in the abdomen but there was some tenderness in the region of the pylorus. The abdomen was otherwise normal. The heart and lungs were sound. The first motion passed was black and gave the guaiacum reaction. The patient was kept flat in bed and all food by the mouth was stopped, one pint saline injections being given per rectum every eight hours. A small quantity of peptonised milk was given in addition on the third day and on March 26th mouth feeding had been completely resumed, the patient having small feeds of peptonised milk. These were gradually increased until April 3rd, when vomiting again started, the ejecta containing some altered blood. The vomiting was stopped by a 24 hours' cessation of mouth feeding. After this the patient began to improve and on April 19th was taking boiled fish. There was a slight relapse on April 20th and some altered blood passed per rectum. This only lasted a few days and the patient began to improve until May 6th, when he ate some biscuits smuggled in by visitors, after which he vomited a large amount of blood. Nutrient enemata were returned to but the vomiting persisted. On May 11th another attempt was made at mouth feeding and hæmatemesis again started. The vomit was found to contain no free HCl. The patient was again put back to rectal salines injections and nutrient enemata. His condition had now become very feeble. The temperature was subnormal and the pulse was 56. On May 21st, after consultation with Mr. Cooke, it was decided to perform a gastro-jejunostomy and the patient was transferred to a surgical ward.

The operation took place on May 22nd and owing to the exhausted state of the subject the anterior operation was performed. The patient was anæsthetised with chloroform, a vertical incision was made a little to the left of the middle line, and the peritoneal cavity was opened. The stomach on examination was found to be moderately dilated and there was considerably inflammatory thickening around the pylorus. No enlarged glands could be felt. A loop of the jejunum about two feet from the third part of the duodenum was then carried in front of the colon and was anastomosed with the anterior wall of the stomach by means of a double row of continuous sutures. The usual precautions were taken to avoid kinking and pressure on the colon; the direction of the peristalsis in the coil of jejunum was the same as that in the stomach. The opening in the stomach was such as to admit three fingers and was near the greater curvature rather to the right of the centre. The abdomen was closed by the usual sutures; after the operation the patient was very collapsed.

On returning to the ward a rectal injection of coffee and brandy was given. The patient commenced to vomit as soon as he recovered from the anæsthetic; the vomit was at first clear but rapidly became green. This vomiting persisted for a week, occurring several times each day; the amount ejected was considerable, each day's total vomit exceeding the amount of fluid taken. The patient was kept alive by nutrient enemata of peptonised milk and brandy and occasional large rectal saline injections; alternate injections of digitalin and strychnine were given every four hours. On the evening of the 23rd three pints of saline solution containing three ounces of brandy were introduced intravenously and improved his condition. Attempts were made at mouth feeding at different times with small amounts of whey, peptonised milk, meat juice, iced champagne, and brandy but nothing was successful in allaying the vomiting. Small hypodermic injections of morphine were given on the 27th and 28th with no beneficial results. During this time the abdomen was never tender or distended and there were no signs of peritonitis. On the evening of the 29th, as the patient's condition was very grave, Mr. Cooke decided to open up the wound and explore. Eight minims of liquor strychninæ were injected, the patient was moved to the theatre, and the wound was re-opened under light chloroform anæsthesia. The original anastomosis was found to have healed perfectly. The loop of intestine between the duodenum and the anastomosis was found to be distended whilst the descending loop from the anastomosis was collapsed; there was no obvious kinking but it was clear that the condition was that of "vicious circle." A lateral anastomosis was made between the ascending and descending loops by means of a Murphy's button. No additional stitches being employed the wound was rapidly closed, and the patient removed back to the ward within ten minutes of the beginning of the operation. A large coffee-and-brandy enema was administered on returning to the ward and five minims of liquor strychninæ were injected every four hours. The patient rallied well after the operation and at once commenced a successful recovery. There was never any vomiting after the operation. Water was taken by the mouth within 12 hours and small feeds of peptonised milk were tolerated within 24 hours. On June 1st the patient was taking three ounces of peptonised milk every two hours and on June 3rd custard and beef-tea; on June 4th he was taking thin bread and butter; on July 4th he was walking about and went to a convalescent home, where after about five weeks he had put on two stones of weight. During the summer the man had so far recovered that he was employed in the hospital as a night attendant on a patient suffering from delirium tremens. When seen in March, 1907, he looked a healthy man and stated that his health was better than it had been for years. He could now eat and drink anything and had had no pain or vomiting. He had been doing coal porter's work satisfactorily.

Mr. Cooke pointed out at the time that this case adds one more to the long list condemning the anterior operation of gastro-jejunostomy when not modified by lateral anastomosis or the Y operation. It proves that even in exhausted patients ease of manipulation should not influence one in choosing the anterior method rather than the more satisfactory posterior method, except when adhesions or other mechanical causes prevent the accomplishment of the latter.

A MECHANISM FOR REPLACING THE COTTON PLUGS OF TEST TUBES USED FOR RECEIVING CULTURE MEDIA.

BY GOPAL C. CHATTERJEE, M.B.,

ASSISTANT PROFESSOR OF PATHOLOGY, CALCUTTA MEDICAL COLLEGE.

COTTON plugs used for closing the mouths of test tubes containing culture media and for keeping them sterile are used in all bacteriological laboratories. In cold and moist climates they serve the purpose admirably well. In hot and moist climates the cotton plugs become a source of nuisance on account of a large number of them being overgrown with fungi which penetrate through the cotton plugs and deposit their spores on the culture media and contaminate them. In spite of thorough sterilisation in the autoclave a certain number of them thus become contaminated. The only way this can be prevented is by putting on over the cotton plugs rubber caps previously soaked in perchloride of mercury solution, which means a loss of a good deal of time when one has to deal with a large number of test tubes. For this reason I have adopted a mechanism which does away with the use of cotton plugs altogether. It consists of one

test tube inverted over another, the latter containing the culture medium and being longer and slightly narrower than the former; the covering tube may be 4 inches by ¾ inch and the inner tube 6 inches by ¾ inch. The outer tube is kept in position by the help of a spring attached to a ring which surrounds and fits on the lower tube. The arrangement is shown in the illustration. The spring is strong enough to prevent the upper tube slipping off from the lower one in case the tubes are lifted up from a stand by holding

A, The outer covering test tube. B, The inner tube. C, The ring to which the spring D is attached.

the upper one; but it will allow the upper tube being removed by a slight pull when required for introduction of needles, &c., for the purposes of inoculation. When culture tubes provided with this mechanism are to be cleaned the ring surrounding the lower tube can be easily slipped off and the tubes can be cleaned in the ordinary way by chemicals, &c.

The following procedure should be adopted in filling these tubes with culture media and for sterilising them. Both sets of tubes are at the outset to be thoroughly sterilised and then they are to be arranged one over the other as described before and the ring slipped into the lower tube and the spring adjusted so that it touches the rim of the upper tube, as shown in the illustration. They are sterilised in the hot-air steriliser. They are then ready for receiving the culture medium with which they can be filled by taking off the upper tube which can be more easily managed than removing the tightly packed cotton plug of an ordinary tube. Subsequent procedures of sterilisation, &c., are managed in the same way as with an ordinary tube. In inoculating a tube the upper one is removed while holding both tubes in an inclined position, as is done with an ordinary test tube, and then inoculating the culture medium and subsequently replacing the upper tube. There is no necessity for scorching the ends of the tubes as in done in case of the cotton-plugged tubes, as there is no chance of contamination of the ends, as they are not touched by the fingers, the tubes being held by the other ends. Accordingly it saves a good deal of time and worry when one has to deal with a large number of tubes. The tubes of this kind have been in use in the bacteriological laboratory, Calcutta Medical College, along with the ordinary tubes for over six months and have hitherto given uniformly satisfactory results. They have not been contaminated except in a few cases where in taking a tube from a stand the upper tube has slipped off from the lower tube owing to the spring not being sufficiently strong to keep the tubes in position and the tubes were subsequently found to be contaminated. In one instance some ants got inside the tube containing the culture medium and contaminated it. They got into the tube through the opening between the two not properly fitting tubes—an ordinary tube being used as the covering tube, allowing a large amount of space between the two. Even with these there have been very few contaminations.

The advantages of this method of preparing culture tubes over the ordinary method are the following. 1. In moist hot climates the cotton plugs get easily grown with fungi which contaminate the culture media contained inside the tubes, but in this method there is no chance of this happening. 2. In filling tubes with culture media in this method the removal and replacing of the upper covering tube are much more easily managed than the removal and putting back of a cotton plug of an ordinary tube. 3. In the same way in inoculating tubes they can be managed much more easily than the ordinary tubes. 4. Cotton fibres adhering to the mouths of the tubes get soiled with bacilli from the platinum wire introduced for the purpose of inoculating and these fibres in their turn contaminate the glass handle of the platinum wire and consequently become a source of danger to the inoculator, whereas in the other case there is no chance of this happening. 5. The inconvenience experienced on account of burning of cotton plugs is obviated. 6. In the ordinary method the cotton plugs once used have to be thrown away and to be renewed each time so that there is a heavy item of expenditure on this account, whereas in the other method every part of the apparatus can be used over and over again.

The only disadvantage is in the case of tubes packed for sending by post when there is a risk of foreign particles falling in between the tubes while they are inverted.

Calcutta.

NOTES ON TWO CASES OF PAROXYSMAL* TACHYCARDIA.

BY R. O. MOON, M.D. OXON., M.R.C.P. LOND.,

PHYSICIAN TO THE WESTERN GENERAL DISPENSARY, MARYLEBONE-ROAD, LONDON, N.W.; PHYSICIAN TO THE NATIONAL HOSPITAL FOR DISEASES OF THE HEART, SOHO-SQUARE, W.; AND PHYSICIAN TO OUT-PATIENTS AT THE ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO-ROAD, S.E.

Two cases of paroxysmal tachycardia have recently come under my notice and as it is not a common condition they seem worth recording.

CASE 1.—A girl, aged 20 years, of Semitic origin, by occupation a waitress, came to the out-patients' department of the National Hospital for Diseases of the Heart for periodical attacks of palpitation of the heart occurring on an average about every three weeks but bearing no relation to the catamenia. As a rule the attack came on suddenly, though at times for a few hours beforehand her voice became weak, almost passing into a condition of aphonia. The attack generally lasted from 24 to 36 hours and then stopped abruptly, and she experienced a sensation as if the heart had "jerked itself into the right place." There was a dull pain during the attack over the shoulders and in the left side. In the intervals she was fairly well. The attacks began five years ago and there was nothing definite to account for the first attack. When I first saw her the pulse was very rapid—210 while lying down, 224 after walking, but quite regular and of moderate tension. The cardiac impulse was forcible but the position of the apex beat and the limits of cardiac dulness were normal and there were no murmurs. The most striking feature, however, was that though somewhat distressed she did not seem very ill in spite of the great rapidity of the pulse, and the breathing was fairly quiet. Being quite well in the intervals and able to do her work, she could not be persuaded to come into the hospital where

* In spite of Professor Clifford Allbutt's strictures on this nomenclature the term "tachycardia" in current medical literature appears to connote a *continuously* rapid cardiac action, and therefore the epithet "paroxysmal" as applied to these cases is not otiose.

she could have been under observation. In September, 1906, she had a very severe attack lasting four and a half days, during which I was able to see her twice. The paroxysm had seized her suddenly in the night while at rest, but she was able to continue at work the following day; after that, however, she had to take to her bed. When I saw her she was lying on her left side, very much exhausted and sweating considerably. She complained of pain in the upper part of the chest and down the left arm, but it was not acute. The pulse was 180, but in other respects the heart was normal. When seen two days later she looked extremely ill and there was an ashen pallor of the face; she did not complain of pain but was feeling very greatly exhausted. The pulse was uncountable at the wrist, being 260 with the stethoscope, and there were signs of dilatation of the heart. The next day the pulse dropped to 90 and she was soon out of the attack, but she felt weak and battered for from three to four days, and then resumed her work. This was by far the longest attack she had ever had and it has not been repeated. During the attack digitalis proved of no avail; she seemed to experience relief by having cold water poured over the wrists. Since she has been under out-patient treatment the attacks have certainly been less frequent. The drugs which have seemed most useful are bromide of potassium and hyoscyamus.

CASE 2.—The patient was a young man, aged 23 years. When 18 years old he was said to have had "muscular rheumatism" and was in bed for ten weeks, so presumably the valves of his heart were damaged at that time. A year later he had an attack of influenza, followed by pleurisy and pneumonia. About two and a half years ago he began to have attacks of palpitation of the heart, which at first occurred about once a month, but for the last one and a half years he had had on an average two a week and had never been for more than a fortnight without an attack. The first attack seemed to come on after rather a long bicycle ride, but he had never been able to discover any other cause for the ensuing attacks. In appearance he was a small, rather wiry-looking fellow, but pale-faced with an anxious expression and dilated pupils. On examination his heart showed some hypertrophy of the right ventricle; there were a presystolic thrill and murmur, and the liver was two inches below the costal margin. As a rule the pulse was rather slow, varying from 60 to 66, full, and of moderate tension. The blood pressure was 120 (taken by Martin's manometer). The attack of palpitation came on suddenly and the pulse-rate ran up to 240, becoming uncountable at the wrists but the beats were regular and the ordinary condition of his heart was unchanged; he sometimes had a feeling of impending death but there was no acute pain; he usually sweated profusely. This condition lasted from 20 to 30 hours and then came to an end as suddenly as it began. Like Case 1, he said it felt as though the heart had jerked itself into the right place again. He generally felt very drowsy after an attack. Often the attacks began at night, when he was lying quietly in bed, and these were usually the worst. At times he felt particularly well for a couple of days prior to the attack. Though the attacks certainly caused him more general distress than Case 1, he was yet able to get about while they lasted and had indeed come up to the hospital with an attack on him. He came into the hospital for two months, but the rest in bed did not seem to do him much good and treatment during the attacks was not satisfactory, although they were less prolonged than when at home. Among drugs erythrol tetranitrate seemed to give him most relief and occasionally digitalis cut short an attack; neither drinking hot coffee nor ice to the præcordium nor a blister to the spine appeared to be of the smallest use. On several occasions, however, he found that vomiting relieved him, so acting on this he was given an emetic and nearly always the attack ceased after he had vomited. This method of treatment certainly had a depressing effect upon him in the intervals and is not to be recommended. From pressure on the vagi in the neck, which had been suggested by some, I obtained no satisfactory result. Rosenfeld claims to have cured four cases by making the patient press his elbows into the sides, and at the same time making pressure on the abdomen. This certainly afforded some temporary relief in this case, the patient saying that during the attack the principal discomfort was the feeling of shaking in the abdomen, which extended down to the thighs, and this was relieved by the pressure.

There is a good deal of literature on this subject, but it can hardly be described as illuminating, either as regards cause or pathology. There is some agreement in regarding over-work, either bodily or mental, or an injury as the exciting cause, but this did not appear in the above cases. As to pathology, it would seem natural to suggest a lesion of the vagus, but Professor Clifford Allbutt has pointed out that this would only raise the pulse to 140 and certainly would not account for the great acceleration of the rate described above. Others have regarded it as a bulbar spinal neurosis, while S. West[1] considers the myocardium to be the seat of the lesion. Gibson[2] has pointed out the analogy between paroxysmal tachycardia and delirium cordis, which would accord with the idea that the seat of the lesion is in the myocardium. Such post-mortem examinations as have occurred show no trace of any nerve lesion, whereas fatty degeneration of the heart muscle has been found once, chronic interstitial myocarditis twice, and cardiac dilatation three times. Hoffman[3] states that in 13 necropsies myocarditic changes were present in all, and these were usually recent. He does not, however, believe that the myocardial condition was responsible for the disease. On the contrary, he is of opinion that the essential lesion must be located in the central nervous system and considers the paroxysms similar in nature to an epileptiform attack; certainly there is much in these attacks to suggest something in the nature of Liveing's "nerve storms" or of the paroxysmal neuroses.

Some cases present a great variety in the paroxysms which at times last only a few hours, at others for several weeks. Hochhaus[4] quotes a case in which there was œdema of the whole body, bronchitis, and anuria, which all vanished rapidly when the heart returned to its normal state. Post mortem nothing definite was found. According to Herringham[5] if the attack lasts more than five days secondary symptoms—e.g., bronchitis and pulmonary œdema—will probably appear. Bouveret,[6] who was the first to give any complete account of paroxysmal tachycardia, does not include cases with organic cardiac lesions, but this is surely an unnecessary refinement, for paroxysmal tachycardia has clearly no essential connexion with valvular disease and, therefore, although Case 2 was suffering from mitral stenosis, it seems quite reasonable to regard it as an example of paroxysmal tachycardia. The prognosis is certainly not good, for after 30 years of age a patient is never safe from death. In the intervals, however, patients are able to resume their ordinary avocations and indeed to do fairly hard work without experiencing either palpitation or dyspnœa. According to Bouveret, the acute dilatation of the cardiac cavities which characterises a prolonged attack (*accès de longue durée*) does not pass into a chronic dilatation which can be appreciated in the intervals of the paroxysms. Nevertheless, the attacks tend to recur with greater frequency, gradually becoming longer, more intense, and more grave till the final syncope.

Green-street, Park-lane, W.

BLOOD PRESSURE IN FEVERS.

BY JAMES DAVIDSON, M.D. EDIN., &c.,
MEDICAL OFFICER, LONDON MISSIONARY SOCIETY HOSPITAL, NEYOOR, TRAVANCORE, SOUTH INDIA.

WITH the advent of many improved forms of apparatus for the accurate estimation of blood pressure, sphygmometry has now become a valuable aid to diagnosis in many forms of disease. When one begins to study the pulse and the circulation in fevers, the changes which are attributable to the fever itself must be carefully distinguished from those which are merely secondary to pyrexia. The increase in the pulse-rate which occurs is—in the first case, at any rate—simply due to the increase in temperature of the blood. Liebermaster has shown that in man there is an increase of about 14 beats per minute for each degree Centigrade—or eight beats for each degree Fahrenheit—of increased temperature. This phenomenon is particularly well illustrated in the early stages of many cases of enteric fever. Increase in the pulse-rate beyond this physiological ratio must be

[1] Transactions of the Medical Society of London, vol. xiii., p. 318.
[2] Diseases of the Heart and Aorta, p. 804.
[3] Deutsches Archiv für Klinische Medicin, Band lxxviii., S. 39.
[4] Ibid., Band ii., S. 17.
[5] Edinburgh Medical Journal, 1897.
[6] Revue de Médecine, Paris, 1889, tome ix., p. 753

attributed to the injurious action of the cause of fever, either directly on the cardiac muscle or indirectly through its action on the cardiac centre in the floor of the fourth ventricle. Although the rate of the heart-beat increases, the blood pressure is usually diminished in a case of fever.[1] But this does not invariably occur nor to the same degree in all fevers. A *sthenic* fever is physiologically one in which the blood pressure keeps high; *asthenic* fevers are those in which it suffers diminution. The fall of pressure is to be ascribed to a relaxation of the peripheral arterioles. In sthenic fevers with a rapid pulse and very vigorous systole the arterial relaxation may be counter-balanced, or nearly so, by the increased heart's action, the pressure remaining high, or the general arterial relaxation may itself be absent; while, on the other hand, when this latter is very marked or where the cardiac muscle becomes enfeebled by the action of the febrile agent—viz., the toxins circulating in the blood—the fall of pressure is progressively more marked as the systole diminishes in vigour. Between these two extremes, marked fall of pressure from peripheral relaxation, associated with a good flow of blood and a good systole, leads to the phenomenon of dicrotism of the pulse, which is so commonly to be observed in the earlier stages of enteric fever. Many of the ill-effects of fever are in part attributable to the lowering of the blood pressure. This gives rise to a lessened flow of blood from slowing of the general circulation and thence leads to a diminution of nutrition, the effects of which are often markedly in evidence—for example, in the kidneys.

Opinions have varied greatly as to the influence of fever upon arterial pressure. Some writers allege that it is increased, some that it is lessened, while others maintain that the result varies in apparently similar cases. On the whole, it would seem that the pressure varies in individual cases directly with the temperature and a drop in pressure almost always coincides with a crisis or depression of the temperature by baths, &c. There are, however, in fevers two influences at work—pyrexia and intoxication, and as their effects on blood pressure are opposed, and as the one is not always proportional to the other, the results will necessarily vary. Hæmorrhage, diarrhœa, exhaustion—all play a part in the ultimate result.

Zadeck[2] reported the blood pressure in the various forms of fever. He found that in all cases of typhoid fever the rise in blood pressure constantly coincided with the height of the temperature, this being true also of the continued as well as of the remittent fevers. He concluded that fever in general causes an increased blood pressure, this being due to the increase in the temperature of the blood, as when baths were given the pressure was again lowered. Exception, however, is made to such fevers as are caused by septicæmia, pyæmia, &c., which experimentally on dogs were found to lower the pressure. Von Basch, from an extended number of observations in the various diseases with fevers, states that the question whether the pressure rises or falls in fevers cannot be answered by a simple "Yes" or "No," as various other factors which influence the blood-vessels are to be given consideration. Eckert, from 28 observations on the various forms of fevers, concludes: (1) That fever always more or less increases the blood pressure; (2) that in fever of short duration the rapid rise in the temperature and a distinct crisis affect the pressure notably in that it distinctly rises with the rise of the temperature and during the crisis it falls below the normal; and (3) that continued fevers also at first cause a rise in pressure, but if the fever continues for a longer period a distinct fall in pressure follows. It has always to be borne in mind that a difficulty which has to be faced in all such observations is that the normal pressure in the particular individual rarely is determined before the onset of the disease.

When acting as resident physician at the Edinburgh City Hospital, by the kind permission of Dr. C. B. Ker I had the opportunity of making careful sphygmometric observations in a large number of cases of fever. Routine examinations were made between midday and 1 P.M. (just before the patient's midday meal) each day in order that the readings might be as uniform as possible and not influenced by the effect of digestion. Another reading was taken in the evening. In special cases and during hyperpyrexial periods readings were taken at much more frequent intervals. From the readings so obtained graphic curves were made out. These could then be compared at a glance with the pulse and temperature curves for the same period, as these latter were also graphically represented. Oliver's sphygmometer and Hill and Barnard's apparatus were those chiefly used, though a comparison of six different forms of instrument was made in a few cases.

1. *Scarlet fever.*—In 37 cases of simple scarlet fever which I thus examined I found that they practically all showed the same course. The blood pressure curve was very similar to those of the pulse and of the temperature. One may be taken as a type of the rest. The patient, aged 20 years, was admitted on the second day of the disease. The temperature reached normal on the seventh day. The case was one of well-marked simple scarlet fever without any complications. As in the majority of the cases the blood pressure continued to fall until the seventh or eighth day of the disease, at which point it had usually passed below the normal standard line. From this it gradually rose to reach normal, or in many cases remained above normal for quite a long period. In about 5 per cent. of the cases examined the blood pressure remained practically normal, even during the period of pyrexia.

As a type of the way in which complications seem to affect the blood pressure let me quote the following case. A girl, aged 15 years, was admitted on the third day of scarlet fever. The rise in blood pressure during the period of pyrexia, when the case was complicated by otorrhœa and adenitis, was well marked, more so by the former than by the latter. Some of the cases which were examined showed no rise of blood pressure during the pyrexial period due to adenitis.

In the case of a girl, aged five years, who was admitted with well-marked symptoms of scarlet fever on the third day of the disease and who on the sixth day also developed a well-marked measles rash with the other usual accompanying symptoms, both the pulse and blood pressure curves followed very closely the temperature curve of an ordinary case of measles.

In several scarlatinal cases of the anginose type the blood pressure was found to fall as the toxæmia increased, even in spite of cardiac stimulation by alcohol and strophanthus. As a type of this the following may be quoted. The patient, a female, aged four and a half years, was admitted with diphtheria and afterwards developed a bad type of scarlatina anginosa. In spite of vigorous stimulation with alcohol (one drachm of brandy every two hours) and strychnine (liquor strychninæ, one minim every four hours) and strophanthus (tinctura strophanthi, two minims every four hours), the pulse pressure fell to below 60 millimetres—in fact, below the limit of accurate measurement. It began to improve somewhat under treatment but the child died suddenly from cardiac failure, evidently due to toxic myocarditis.

2. *Scarlatinal nephritis.*—Riegel[3] has studied the development of this complication with great detail and fixes the following principles: 1. In most, if not all, cases of scarlatinal nephritis there are evident from the beginning of the disease, and synchronously with the appearance of albuminuria, also the signs of an increased tension in the arterial system. 2. This increased tension of the aortic system is always connected in a marked degree with a slowing of the cardiac action. 3. With the subsidence of the nephritis the pulse-rate increases in the ratio that the arterial pressure decreases.

In nine cases of scarlatinal nephritis carefully examined by me at the Edinburgh City Hospital I found that in every case the blood pressure was raised during the period of albuminuria. The chart showed that the rise in blood pressure often took place even before the presence of a trace of albumin had been noted in the urine, thus affording the very earliest indication of the nephritic complication.

3. *Diphtheria.*—Friedman[4] in a series of cases in which he took careful sphygmographic tracings concludes that a marked reduction of pressure warrants a bad prognosis. Biernacki, Brodie, Roux, and others have all shown that reduced blood pressure regularly follows absorption of diphtheria toxins to a greater or less degree.

In a number of cases of diphtheria which I examined a reduction in blood pressure was found in every case, depending in amount to a large extent, if not entirely, on the

[1] Walker: General Pathology of Inflammation, Infection and Fever, 1904.

[2] Crile: Blood Pressure in Surgery, 1903.

[3] Ueber die Veränderungen des Herzens und des Gefässystems bei Acuter Nephritis, Zeitschrift für Klinische Medicin, Band vii., 1884, S. 260.

[4] Northrop: Nothnagel's Encyclopædia of Practical Medicine, 1902.

degree of toxæmia. Mild cases showed normal, or slightly subnormal, readings. The chart of a girl, aged three and a half years, showed the marked depression of blood pressure due to the diphtheria toxin. It also shows a marked rise above normal during a period of severe albuminuria. As practically all the cases of diphtheria in the Edinburgh City Hospital were by routine practice put upon strychnine and alcohol on admission the fall of blood pressure due to the toxic condition was to a large extent annulled. In cases which did not receive any such stimulation a fall was in every case noted until this treatment was commenced. During the routine administration of such stimulants over long periods the blood pressure response to any single dose was apparently absent, or in any case was much less marked than that following the first few doses given to the patient; but in these circumstances, if the routine order were suspended for one or two periods, the blood pressure was noticed to be affected. This constant blood pressure level, as maintained by the use of strychnine at regular intervals, seems to represent the ideal to be aimed at in the stimulant treatment of toxic conditions such as diphtheria.

4. *Effect produced by the administration of antitoxin in diphtheria.*—If careful observations be made[5] it will be found that in a good proportion of cases there is a rise of temperature of one or two degrees coming on four or five hours after injection; this phenomenon is transient, lasts a few hours, and is not generally seen on the ordinary chart when the temperature is recorded but twice daily. The pulse is also accelerated at the same time, usually out of proportion to the temperature.

At the Edinburgh City Hospital I carefully examined 18 cases of diphtheria to which antitoxin in varying doses was administered. In 15 (or about 90 per cent.) of these a rise of temperature was noted, the maximum being about from three to four hours after the administration. This rise did not seem to be dependent on the amount of anti-diphtheritic serum given or on the age of the patient. The average rise was about 1° F. and the pulse was usually correspondingly accelerated—viz., by six or eight beats per minute. The pulse pressure in almost every case was found either reduced or the same. In a good proportion of the cases this fall took place within a quarter of an hour of the administration and had passed off within an hour. Three or four hours later the blood-pressure was either the same as before administration or slightly raised. The effect is evidently one of temporary depression and permanent stimulation.

5. *Typhoid fever.*—In typhoid fever the blood pressure is always considerably lowered,[6] the diminution progressing steadily the longer the duration of the case; and it only rises again on the establishment of convalescence or on the occurrence of some acute inflammatory complication (pneumonia, peritonitis, &c.). Potain states that in general this fall is from three to four or even five centimetres of mercury and is neither proportionate to that of the temperature nor to the frequency of the pulse. In the defervescence the pressure at times falls suddenly, then during the convalescence gradually rises again to the normal.

Crile,[7] after observation of 115 cases with the Riva-Rocci apparatus, states that the average pressure in the first week of the disease was 118 millimetres; in the second, 106; in the third, 104; in the fourth, 96; in the fifth, 98; and the normal was gradually regained as convalescence ensued. Perforation and peritonitis usually elevate the pressure and in many cases the rise has been definitely observed. Briggs records the control. No rise in blood pressure was found in a case where the symptoms pointed to perforation but where none was found on exploration.

Carrière and Dancourt[8] gave the results of a study of 41 cases of typhoid fever in children. They found increased tension the day before or even several days before a hæmorrhage. It was also found frequently to accompany congestion, especially of the lungs. Pericarditis also caused an augmentation. Myocarditis did not necessarily seem to lead to lowering of the tension; on the contrary, the opposite was often seen. It would thus appear that arterial pressure is able to reveal the onset of complications and, taken with the pulse, temperature, and general aspect of the patient, is of considerable use in prognosis.

In the case of a girl, aged four years, admitted to the Edinburgh City Hospital as one of scarlet fever, the temperature curve was found to be somewhat irregular. The blood-pressure, which was being recorded by me in the series of cases of scarlet fever already referred to, was found to be markedly subnormal and as this was not to be expected in a simple scarlet fever with no very exaggerated symptoms suspicion of typhoid fever was aroused. Widal's test proved positive on first examination and on several later occasions. The value of the estimation of the blood pressure is here exhibited in the diagnosis of a somewhat doubtful case.

Neyoor, Travancore, South India.

[5] Ibid.

[6] Cowan: The Practitioner, vol. ii., 1904, p. 227.

[7] Journal of the American Medical Association, 1903, vol. xl., p. 1292.

[8] Crile: Blood Pressure in Surgery, 1903, p. 400.

A CASE OF

INTUSSUSCEPTION IN AN INFANT THREE MONTHS OLD; ENTERECTOMY; RECOVERY.[1]

BY F. W. COLLINSON, M.D. EDIN., F.R.C.S. EDIN., M.R.C.P. LOND.,

HONORARY MEDICAL OFFICER, PRESTON ROYAL INFIRMARY.

THE reasons for bringing the following case before this society are the unusually early age of the patient for operation and certainly for it to be followed by recovery; secondly, the absence of shock naturally expected after so severe an operation; and thirdly, to stimulate early diagnosis with immediate bold surgical procedure.

The patient, a girl, aged three months, was apparently perfectly healthy up to 11.30 P.M. on Oct. 20th, 1905, when she was suddenly seized with severe spasms of abdominal pain and vomiting of milk drawn from the mother's breast. The following day Dr. J. Reid was called and promptly diagnosed an intussusception and summoned me. We saw the case together at 5 P.M. and found the child quiet. She permitted palpation of the abdomen, when the sausage tumour was made out, and we saw her blood-stained napkins. The parents agreed to her instant removal to the Preston Infirmary and immediate operation. Within one hour, and 17 hours after the first onset, the child was under chloroform, having been wrapped in cotton-wool and placed upon an indiarubber hot-water bag. The elongated tumour was readily felt, mainly situated to the left of the middle line. With the assistance of Dr. J. E. Pellow, house surgeon, I cut down and reached the tumour. By a milking process we easily reduced it to the last four inches and then brought it outside the abdomen and found it dusky in colour and the serous covering commencing to split. We judged it dangerous to continue the forcible reduction and decided to excise the entire intussusception. After clamping the bowel the mass was excised, consisting of two and a half inches of the ileum, cæcum, appendix, and a small part of the ascending colon, seven inches in all. This in an adult would represent several feet in length. The ends were brought together with the help of a Mayo Robson bobbin. After cleansing, the bowel was returned and the abdominal wall was closed, the operation being completed within an hour.

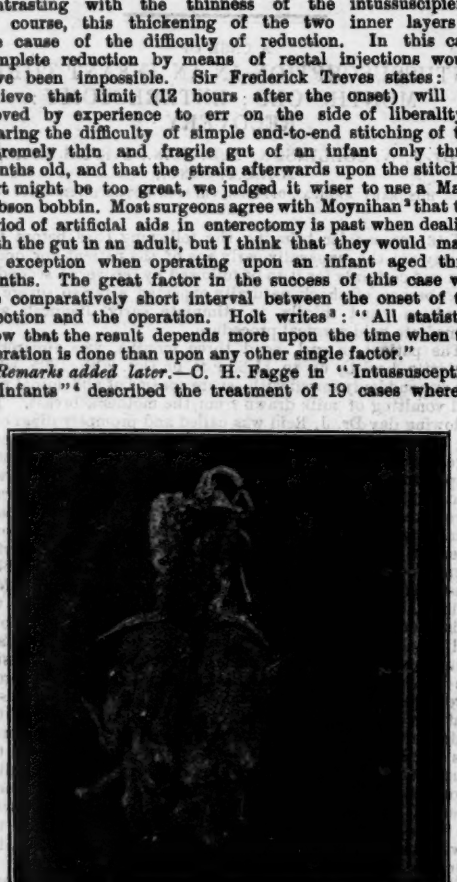
The after history was uneventful; two and a half hours after the operation the mother suckled the infant and continued to do so every three hours. The child was slightly fretful and during the first three and a half days vomited small quantities of the milk but nevertheless took her feeds regularly and well. Raw beef juice was given on the third day. The bowels acted ten hours after the operation and again in nine hours, and afterwards three times in the 24 hours. On the fifth day the bobbin was passed. The temperature never rose above two degrees and was normal on the tenth day and remained so. The pulse rose to 152 in the first night but became normal on the fourth day. The infant looked remarkably well, certainly not presenting the aspect of one suffering from the shock naturally expected after so grave an operation. The wound was dressed on the eighth day and was quite healed. At the end of three weeks the little patient was discharged, having gained weight, being 13¼ pounds and looking the picture of health. She remains in excellent health, not apparently suffering in any way from the operation, beyond a slight weakness of the abdominal wall.

If we remember, "There is no disease in which an infant

[1] A paper read before the Clinical Branch of the Preston Medico-Ethical Society on April 19th, 1906.

will be attacked so suddenly with the clinical symptoms of abdominal pain, combined with bloody discharges from the bowels" (Rotch), there ought to be little difficulty in arriving at a correct diagnosis. In my experience, failures in diagnosis have been mainly due to not giving sufficient weight to the sign of blood-stained mucus, "currant jelly," from the rectum. Bloody stools occurred in 97 per cent., in from two to ten hours, in the 144 cases reported by Clubbe. This physical sign arises from the congestion and swelling of the entering and returning layers of the intussusception which is well demonstrated in the illustration, strongly contrasting with the thinness of the intussuscipiens. Of course, this thickening of the two inner layers is the cause of the difficulty of reduction. In this case complete reduction by means of rectal injections would have been impossible. Sir Frederick Treves states: "I believe that limit (12 hours after the onset) will be proved by experience to err on the side of liberality." Fearing the difficulty of simple end-to-end stitching of the extremely thin and fragile gut of an infant only three months old, and that the strain afterwards upon the stitched part might be too great, we judged it wiser to use a Mayo Robson bobbin. Most surgeons agree with Moynihan[2] that the period of artificial aids in enterectomy is past when dealing with the gut in an adult, but I think that they would make an exception when operating upon an infant aged three months. The great factor in the success of this case was the comparatively short interval between the onset of the affection and the operation. Holt writes[3]: "All statistics show that the result depends more upon the time when the operation is done than upon any other single factor."

Remarks added later.—C. H. Fagge in "Intussusception in Infants"[4] described the treatment of 19 cases where to



Intussusception split open. Ileum at the lower end of specimen and ascending colon in the upper part. Appendix to the left of the entering ileum. The thin sheath or intussuscipiens is well shown and the greatly thickened entering and returning layers. The entering ileum is cut completely across. The ileo-cæcal valve is about an eighth of an inch below the level of the number 7. The mesentery is behind the section and not therefore shown in the illustration.

bring about reduction he used great force with very good results, apparently not fearing the splitting of the coats. After reading this paper the doubt occurred to me whether I had applied sufficient force before deciding upon enterectomy. More recently another intussusception came under my care in a boy, aged ten months, in whom it had been present for 13 hours. Acting upon Fagge's advice more force was applied and reduction was easily produced. In this latter case after reduction great thickening of the ileum at its junction with the cæcum made me suspect a polypus, but more careful palpation revealed its true character. This operation only occupied 15 minutes and the boy made a quick recovery.

[2] Abdominal Operations.
[3] Diseases of Infancy.
[4] Practitioner, December, 1906.

The interesting and highly successful series of 144 cases operated upon by Clubbe[5] will encourage the use of rectal injections. He found them curative in early cases and useful in all cases where coeliotomy is performed to reduce the length of the intussusception before the manipulation is applied in the abdomen. His series certainly marks an enormous advance upon the surgery of 12 years ago when Roughton could only find records of 16 successful laparotomies for intussusception in infants, and of 18 years ago when A. E. Barker published his first paper on the subject, in which he urged that laparotomy could not be performed too early in any case after irrigation had failed.

Preston.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Exhibition of Cases.—Presidential Address.

THE first meeting of the Clinical Section of the Royal Society of Medicine was held on Oct. 11th, Sir THOMAS BARLOW, the President, being in the chair.

Mr. T. H. OPENSHAW showed a case of a boy with Congenital Absence of the Fibula. The patient was sent to him five years ago. Amputation had been advised. At that time the tibia was extremely curved outwards, making an angle of 110°. He resected cuneiformly and straightened the leg. A year later the patient was fitted with a Hessing's splint appliance which accurately fitted and enabled the patient to walk well. There was about four inches of shortening.

Mr. OPENSHAW also showed an infant whose right tibia was fractured in the centre; the lower end of the upper half projected forwards as a conical stump under a well-marked dimple of skin. The lower half ended also in a somewhat sharp extremity. The internal malleolus was absent. The fibula was enlarged and curved; there was a dimple over the upper end. The external malleolus was much enlarged. In the left leg the upper fifth only of the tibia was present. There was a deep depression over the centre of the upper part of the leg, corresponding with the edge of the fibula. The lower four-fifths of the tibia was absent. The fibula was much enlarged and curved. The external malleolus was very prominent. There were only four toes on the foot.

Mr. DOUGLAS DREW showed a case of Tuberculous Synovitis of the Knee-joint on which arthrectomy was performed on two occasions, a moveable joint resulting. The patient was a girl, aged seven years. She came under observation in February, 1903, with chronic synovitis; previously she had been under treatment at another hospital for some months. The joint was much distended by fluid but there was no limitation of movement. The case was treated on a splint and Scott's dressing was applied at intervals until September, 1904, but no permanent improvement resulted. On Sept. 24th, 1904, the knee-joint was opened by means of Kocher's external incision. Owing to the looseness of the ligaments from the distension it was found to be possible to dislocate completely the patella inwards over the internal condyle without dividing the ligamentum patellæ or chiselling away the tubercle of the tibia with the ligament attached. The synovial membrane which was studded over with miliary tubercle was dissected away, the inner part being rendered more accessible by dislocating the patella. This was completely removed, except for that part lying behind the crucial ligaments. Passive movements of the joint were commenced on the twelfth day after the operation. The case was shown before the Clinical Society early in 1905 and at that time appeared to be a complete cure. However, a few weeks later fluid reappeared in the joint and in spite of treatment on a splint it showed no signs of improvement. On May 16th, 1905, the joint was re-opened through the old incision and a small quantity of fluid escaped. The cavity was lined by a smooth, shining surface which was studded with minute tubercles. The synovial membrane, or what represented this structure (as the true synovial membrane had been removed at the first operation), was carefully dissected away. This was much more tedious to perform than at the first operation as the structure was so

[5] Diagnosis and Treatment of Intussusception, 1907.

fibrous. It was found impossible to dislocate the patella and to get at the synovial membrane of the inner part of the joint through the external incision. A vertical incision was made internal to the patella and this portion of the membrane was removed. The movements of the joint were demonstrated to the meeting.

Mr. DREW also showed a case of Dislocation of the Patella (? Congenital) Cured by Operation.

Dr. A. E. GARROD showed a case of Multiple Nodules (? rheumatic) in an adult female. These nodules were especially marked over the knuckles. The case was not shown as a unique specimen but as an instance of the condition in which the rheumatic connexion was peculiarly clear.—Sir DYCE DUCKWORTH observed that the nodules would disappear under treatment and considerable improvement might be looked for. In adults the nodules lasted for a long time.—The PRESIDENT pointed out that in adults the association with organic heart disease was not so frequent as in children.

Mr. F. J. STEWARD showed a case of Pyo-pericardium successfully treated by drainage. The patient, a girl, aged four years and four months, was admitted into the Hospital for Sick Children under Dr. Garrod on April 8th, 1907, with pneumonia. On April 15th an empyema was found at the left base. After resection of the eighth rib drainage was employed. There was a pure cultivation of pneumococcus grown from the pus. On May 2nd the child was not doing well, the temperature and pulse rising (temperature 103° F. and pulse 148). On May 6th a bulging mass was detected through the resection wound. The temperature and pulse-rate were still raised and the patient was losing ground. A skiagram taken by Dr. I. Bruce showed the mass to be a distended pericardium. On May 9th Mr. Steward opened the pericardium from the back through the resection wound and about two ounces of thick pus were evacuated. A flanged rubber drainage tube was inserted. Steady improvement took place and the pericardium was gently irrigated daily with normal saline solution. By June 14th the wound was soundly healed.—The case was discussed by Dr. S. WEST and Mr. R. J. GODLEE who recalled a similar case treated by Sir William Savory.

Mr. J. HUTCHINSON, jun., showed a case of Fusiform Aneurysm of the Right Common Carotid Artery in a female patient, aged 50 years. On the right side of the neck there was a fusiform tumour of the size of a hen's egg extending from the middle line below to the external border of the sternal fibres of the sterno-mastoid muscle, the long axis lying obliquely from the supra-sternal notch to near the hyoid bone. Expansile pulsation, which was visible, occurred just after ventricular systole. The second heart sound was heard over the tumour but there was no thrill or murmur. The pulses were equal and the arteries were not thickened. The pulse in both subclavian arteries was normal. The pupils were equal and reacted to light and accommodation; there was no evidence of pressure on the sympathetic. Mr. Hutchinson explained that though the patient had had sore-throat and a rash with loss of hair there was no clear evidence as to syphilis on making a complete examination. As the condition was causing the patient pain and inconvenience Mr. Hutchinson proposed to treat the case by ligaturing.

Dr. F. E. BATTEN showed a case of Cerebellar Atrophy. The patient was a male, aged 62 years. He was quite well up to six years ago and then he had business worry. About that time he noticed unsteadiness in walking. Four and a half years ago he lost his balance when getting out of bed and fell down; there was no giddiness or loss of consciousness and he was able to raise himself up and to get into bed. Since March, 1903, he had been unable to walk alone. He had intermittent buzzing in the left ear which could always be stopped by lying on the left side. He had had no headache or vomiting. The patient had syphilis in 1873. He was very thin and wasted but had remarkably good muscular power and was mentally quite clear. The gait was markedly ataxic but he could stand well and there was no Rombergism. There was slight incoördination of the hands. The pupils were unequal, the right being smaller than the left; they reacted well to light and convergence. There was defective ocular movement both to right and left and it was attended by fine nystagmus to the right and slow nystagmus to the left. The optic discs were normal. The knee-jerks were active, there was no ankle clonus, and the plantar response was flexor. All forms of sensation were perfect. Dr. Batten, in concluding his demonstration of this case of atrophy of the cerebellum, pointed out that it was unusual in a man aged 62 years.

Dr. H. A. LEDIARD showed a case of Multiple Sarcoma Cutis. The patient was a male, aged 65 years, who had on his scalp, face, neck, shoulders, chest, and upper part of the abdomen numerous skin tumours, more or less marked, in different places. On the scalp the skin growths had coalesced and presented a dark-blue mass; on the temples and face the disease showed elevated rose-red areas; in the neck there were also the same isolated tumours. On the shoulders and chest the growths were more easily felt but their situation was marked by staining of the skin a dark-brown colour. In the neck and in the left axilla the lymphatic glands were markedly affected. At first there was severe pain in the head causing sleeplessness but at the present time there was none and the patient was able to go about and to do his work of school-teaching without difficulty. The disease was believed to represent the characters of sarcoma cutis, but no microscopic examination of any growth had been undertaken as yet. The duration of the disease was about three months and was attributed by the patient to working under a hot July sun in a garden without a hat for three weeks.—Sir DYCE DUCKWORTH recommended large doses of sarsaparilla and Dr. J. H. STOWERS advised in addition treatment on the lines of specific disease and the application of the light treatment.

Mr. C. W. ROWNTREE showed a case of (?) Myxo-sarcoma.

The meeting concluded with an address from the PRESIDENT who gave a historical survey of the services rendered to medicine by the Clinical Society of London, of which the Clinical Section of the Royal Society of Medicine was the lineal representative. He detailed the work of the society, which was founded close upon 40 years since, and observed that with respect to Gull's paper on Anorexia Nervosa it might be claimed that that title given by Gull was more true and descriptive than any of those subsequently employed. The President declared that he had not the slightest wish to belittle the value of Weir-Mitchell's subsequent papers on its treatment with the three formulæ of over-feeding, massage, and isolation, but he considered that in this country compulsory and specialised isolation had often been made a fetich and that the elaborate and costly ritual of rest cure in nursing homes had sometimes given justifiable cause for the enemy to blaspheme against British medicine. In the course of his further remarks the President specially referred to the group of cases of localised obliterative arteritis recorded by Gould, Hadden, Morgan, and Spencer. It was almost certain, he considered, that other types of recoverable arterial sclerosis and combined arteritis and phlebitis would be found if looked for, and that chronic forms of erythromelalgia yielded evidence of localised lesions more marked on the arterial than on the nerve side. At the conclusion of this address the meeting terminated with a vote of thanks to the President, which was moved by Sir DYCE DUCKWORTH and seconded by Mr. C. A. BALLANCE.

MEDICAL SOCIETY OF LONDON.

Presidential Address.—Some Unusual Cases of Diabetes.

A MEETING of this society was held on Oct. 14th, Dr. J. K. FOWLER, the President, being in the chair. The Presidential Address was delivered and we hope to publish it in a future issue.

Dr. J. ROSE BRADFORD read a paper on three Unusual Cases of Diabetes. He said that the term diabetes probably included a number of conditions dependent, not only on various causes, but also associated in all probability with different lesions. The view was generally held that only a proportion of cases of diabetes could be associated with lesions of the pancreas. Still, it seemed as if the number of cases of the malady that could be attributed to a pancreatic origin was increasing. There was still much difference of opinion as regards the nature of the pancreatic lesions associated with diabetes, although most observers had recorded atrophy and a peculiar variety of diffuse cirrhosis as the most common. Diabetes had been found in association with other pancreatic lesions, as, for instance, calculi, cystic disease, and new growths; but all these pancreatic lesions had frequently been described as occurring

without diabetes. In some very rare instances glycosuria and diabetes had been found associated with acute lesions of the pancreas but there was a general consensus of opinion that diabetes and glycosuria were but rarely seen in association with such lesions. The three cases described were cases of diabetes that seemed to date their origins from a preceding attack of acute pancreatic disease. In all the cases this was an inference rather than a proved fact, inasmuch as in none had a post-mortem examination been made. The point of interest in the first case detailed lay in the fact that on the second admission of the patient to University College Hospital she presented all the signs and symptoms of a typical case of diabetes mellitus, whereas three years previously she had suffered from a large tumour in the region of the pancreas which had apparently disappeared spontaneously after an exploratory incision. The second case, seen in consultation, was an almost identical one, in that a woman had come under observation with a large abdominal tumour in the epigastric region which was explored by a laparotomy, and regarded as malignant and incapable of removal. Subsequently to this symptoms of indigestion, thought to be dependent on pyloric obstruction produced by the mass, developed and a second operation was performed and gastro-enterostomy effected. Dr. Bradford saw the patient 18 months after this second operation when she was suffering from diabetes mellitus in a very severe form. Palpation of the abdomen, which was easy owing to the emaciation, failed to reveal the presence of any tumour. The diabetes was so severe that diet had but little influence on the course of the malady. He had during the last few years seen three other cases in which a mass was present in the epigastric region and where an operation had been performed and what was apparently a malignant growth found and where subsequently to the operation the mass had disappeared and the patient regained health. But in none of those three cases so far as he knew had glycosuria or diabetes ensued. The suggestion he made was that in the first two cases he had mentioned there was a sub-acute pancreatitis accompanied with considerable swelling and induration of the organ. The third unusual case was that of a woman, aged 31 years, who had an attack of what was looked upon as catarrhal jaundice presenting all the typical features of this affection. During its subsidence she was suddenly attacked with intense thirst and polyuria and the urine contained as much as eight ounces of sugar in the 24 hours. In that case the symptoms of diabetes came on suddenly one night whilst the patient was under observation and the urine was known to be free from sugar. Dietetic treatment reduced the quantity of sugar, but six months later the patient still required a rigid diet to keep the urine sugar-free. The suggestion had been made that some cases of catarrhal jaundice were dependent on acute swelling of the head of the pancreas and it was conceivable that that was the cause of the patient's illness. In some instances of catarrhal jaundice hepatic cirrhosis was known to develop as a complication and had been regarded as depending on an ascending infection from the biliary ducts. Diabetes had also been regarded by some as depending on an ascending infection of the pancreas from the onset and he brought forward the case as possibly affording some support to this view.

After Dr. F. W. PAVY and Dr. SYDNEY PHILLIPS had discussed the cases Dr. BRADFORD briefly replied.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Oct. 4th, Dr. J. Walker Downie, the President, being in the chair.—The President delivered an address on the History of the Society. Since its institution in 1814 the title had more than once been changed and its transactions gave an interesting and historical *résumé* of the development of medicine and of the work and personality of the leading physicians and surgeons of the city. In its early days the reading of papers by the members in rotation was enforced and the essay had to be "tabled" two months before the date of delivery. Delinquents were fined 10*s.* 6*d.* for each offence. The range of subjects was very extensive and included some curious ones, such as "blue devils," "the case of a fasting woman," and a geological essay. Dr. Lyon strongly advocated transfusion in post-partum hæmorrhage. He used a dissecting blow-pipe and a bladder. In 1847 anæsthesia by ether was discussed. Dr. Perry remarked that it produced a peculiar intoxication during which the inner character of the individual was exposed. Dr. Hall considered that it differed from alcohol only in degree. Dr. Bell thought its effects more harmful than those of the pain of operation. In 1848 a discussion on the use of chloroform took place. Dr. Easton considered that they were not warranted in proceeding further with such a dangerous remedy. Dr. Lyon strongly advocated its use but emphasised the importance of having it given by one specially trained whose sole attention was to be absorbed in the administration of the drug. Dr. Lyon also advocated its use in obstetrics. Professor Pagan urged against its use that the patient was unable to guide them by her sensations. Dr. Robertson thought it unnecessary in normal and injurious in instrumental labour. In 1835 Dr. Robert Perry demonstrated in the Glasgow Royal Infirmary the grounds for his belief in the non-identity of typhus and typhoid fevers. Tracheotomy in diphtheria was discussed in 1863. Dr. Reid opposed the opening of the windpipe in croup and thought that it was seldom required in diphtheria. Dr. Morton thought death was due to a general poisoning as in scarlet fever and thus tracheotomy was useless. Dr. Lyon considered croup an inflammatory sthenic complaint to be energetically treated by antiphlogistics and tracheotomy was only of avail when the local obstruction threatened death. Diphtheria he considered a new disease. Dr. Gairdner thought tracheotomy useful in selected cases. In 1860 a discussion took place on the excessive infantile mortality in towns. In 1864 Dr. George Buchanan described a successful case of ovariotomy (the first in the west of Scotland). Mr. Lister, in 1868, described a case where a man had an incised wound in the left side of the thorax with penetration through the diaphragm and protrusion of the omentum, which was cut off. The case was treated by carbolic dressings and a carbolic spray was used and the patient made a perfect recovery. Dr. Eben Watson doubted the presence of germs in the air and their association with the formation of pus. Dr. Alexander Patterson, as a result of experiments conducted in the Glasgow Royal Infirmary, ranked the carbolic treatment of wounds as only second to chloroform as a boon to practical surgery. In 1891 tuberculosis as an infectious disease was a subject of discussion. Professor Gairdner said that tuberculosis was the one disease where infectiousness had been accurately proved and the logical issue was that tuberculous patients should be isolated as lepers, but at present he was not going to face that conclusion. The President also gave an account of the history of the Pathological and Clinical Society of Glasgow which was founded in 1873 and which is now amalgamated with the Medico-Chirurgical Society.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on Oct. 9th, Dr. A. Dumville Roe, the President, being in the chair.—Dr. M. G. Biggs opened a discussion with a paper on the Use and Abuse of the Forceps in Midwifery Practice. Restricting his remarks to the application of the forceps during the second stage of labour he said that the parturient woman had a right to demand every alleviation which medical science had provided, such as anæsthesia, asepsis, and rapid delivery. If certain precautions were observed—(1) the os fully dilated, (2) the bladder emptied, (3) the membranes ruptured, and (4) strict asepsis—no abuse was possible. The time at which the forceps was to be applied depended on the conditions in each case, while the old view that the application was to be delayed till signs of danger to mother or child were apparent was erroneous. They were no longer old-fashioned accoucheurs—obstetrical passive resisters—watching the course of labour but obstetrical surgeons whose duty it was to assist actively in the safe and early termination of labour. Dr. Biggs gave statistics from a large number of cases in his own practice, showing that in multiparæ he applied the forceps in 7 per cent. and in primiparæ in 30 per cent., quoting other observers who had recorded as high a rate as 50 per cent. He dealt with the possible injuries to the child and with the comparative frequency of perineal ruptures.—The discussion was continued by the President who placed the percentage of forceps cases at 30 and referred to some neurotic cases in which spasm of the cervix necessitated the application of the forceps before the os was dilated.—Dr. D. M. Aitken discussed the various surgical injuries which followed the use of the forceps, pointing out that cerebral hæmorrhages were more likely to be obviated than caused by the early use of the forceps.—Dr. A. J. Swallow remarked

that the old adage regarding "meddlesome midwifery" was now out of date; he held that the lower the head was in the pelvis when delay occurred the earlier the forceps might be applied. He commented on the lack of practical training in the use of the forceps which was given at the medical schools.—Dr. W. G. Dickinson referred to the possibilities of injury to the os uteri and noted that the proportion of cases in which uterine inertia occurred increased yearly.—Mr. J. Gay, who was in general agreement with Dr. Biggs, held that the judicious use of the forceps aided in avoiding perineal ruptures.—Dr. L. S. McManus inquired as to the general use of anæsthetics with the forceps and pointed out that in some districts asepsis was an impossible ideal, while the results were not unsatisfactory.—Mr. M. Robinson found that frequently the application of the forceps above the brim insured an easy delivery. He placed the percentage at 40 and thought that it might be used oftener with advantage. Ruptured perineum was frequently inevitable and no comparison could be made because the forceps was often necessary on account of the rigidity of the maternal parts.—Mr. E. F. White related that in successive periods his percentage of forceps cases had risen from 37 to 48. Most of his cases were under chloroform and he looked upon a labour in the light of a surgical operation under the most stringent aseptic conditions attainable. He never regretted having used the forceps.—Dr. Biggs, in closing the discussion, said that evidently the majority of medical men used the forceps more frequently than in the past and that with anæsthesia and asepsis no bad results follow to the mother or child provided the forceps be used as a tractor and not as a lever or compressor.

NORTH LONDON MEDICO-CHIRURGICAL SOCIETY.—The session of this society was opened on Oct. 10th at the Great Northern Central Hospital by a short address from Dr. Alexander Morison, the President, who deprecated the prevalent pessimism as regards the position and prospects of the medical profession as both imprudent and unnecessary—imprudent, because to plead poverty was the prerogative of the rich in a largely materialistic world, and unnecessary, because the intelligent cultivation of medicine as a liberal profession usually resulted in an adequate if not superfluous revenue to the practitioner. Such a practical and intelligent cultivation of medicine was to be obtained by the careful study of clinical material to which the society would chiefly devote itself in the coming session.—Dr. C. E. Beevor then demonstrated a well-marked case of Idiopathic Muscular Atrophy which had been under his observation for 14 years.—Mr. Gunn (for Dr. E. Clifford Beale) showed a case of Cerebro-spinal Meningitis which had been successfully treated by lumbar puncture and injection of a vaccine cultivated from the diplococcus found in the spinal fluid of the patient.—Mr. G. B. Mower White demonstrated a case of Lymphadenoma in a child and showed a specimen of Gallstone successfully removed by operation from the small intestine where it had caused obstruction; he also showed an Upper Jaw removed for malignant disease arising in connexion with a dental alveolus.—The President showed a case of Syphilitic Aortic Valvular Disease, a sequel to specific aortitis, which had improved under mercurial inunction and cardiac tonics.—Dr. Hair showed an Arencephalous Monster which survived birth for 48 hours.

HUNTERIAN SOCIETY.—A meeting of this society was held on Oct. 9th.—Professor F. M. Sandwith delivered the first Hunterian lecture on Dysentery. He considered the subject under two headings: bacillary and amœbic dysentery. Bacillary dysentery was from seven to eight times less frequent in England than the amœbic type and might be diagnosed by the isolation of the bacilli from scrapings of the rectal mucosa, from the stools, or by the agglutinative power of the serum. Treatment consisted in clearing out the bowel with castor oil, magnesium sulphate or calomel, rest in bed, and warmth. Anti-dysenteric serum, especially the polyvalent variety, had been proved to be of immense value not only as a curative agent but also as a prophylactic. Amœbic dysentery was more chronic and the symptoms to which liver abscess gave rise might be the first to call attention to the dysentery. Ipecacuanha preceded by a dose of laudanum, taken in diminishing doses every night for a week, as suggested by Sir Patrick Manson, was successful in most cases. Chronic cases were treated by copious enemata, given with the hips raised, and might be of quinine, silver nitrate, or copper sulphate, each in the strength of 1 in 1000. The enemata should be given warm and retained for five minutes.—Dr. Arthur T. Davies proposed, and Dr. R. Fortescue Fox seconded, a vote of thanks to Professor Sandwith.—The President, Mr. F. Rowland Humphreys, and Dr. W. Langdon Brown also spoke.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Oct. 4th, Mr. Richard Lake, the President, being in the chair.—Mr. Lake read his presidential address on "Some Reflections on the Relationship of Some of the More Important Points of Diseases of the Ear and Nose and General Medicine." He dwelt upon points chosen to illustrate more particularly the effects of various constitutional complaints upon the ear and nose and the effects upon the general state of the body when the ear and nose are affected.

Reviews and Notices of Books.

A System of Medicine, by Eminent Authorities in Great Britain, the United States, and the Continent. Edited by WILLIAM OSLER, M.D. Oxon. and McGill, F.R.S., Regius Professor of Medicine in the University of Oxford, England; formerly Professor of Medicine in Johns Hopkins University, Baltimore, &c. Assisted by THOMAS MCCRAE, M.D., F.R.C.P. Lond., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Vol. I.: Evolution of Internal Medicine—Predisposition and Immunity—Diseases caused by Physical, Chemical, and Organic Agents—by Vegetable Parasites—by Protozoa—by Animal Parasites—Nutrition—Constitutional Diseases. London: Henry Frowde and Hodder and Stoughton. 1907. Pp. xxxiv.-937. Price 30*s.* the single volume, or 24*s.* net in set of seven volumes.

THE System of Medicine of which this is the first volume, and which must not be confused with Professor Osler's admirable text-book, is classed among the "Oxford Medical Publications," a description which does not indicate that the works to which it is applied are by members of the Oxford medical school; indeed, so far as a glance through the list of contributors goes of these members only two are included. The lustre shed upon the University of Oxford is derived from the editor-in-chief and in the second place from the publishers. More accurately described, this System is an American rival to the well-known work edited by Professor Clifford Allbutt and Dr. H. D. Rolleston, and it will be interesting to compare the merits of the two publications as they appear more or less side by side. Our patriotism is gratified by being able to note one or two superficial points in which the advantage lies with the English text-book. The older work is brought out in a much more handy shape than its rival—which we have ventured to designate its American rival inasmuch as the great majority of the contributors as well as the assistant editor are from that continent—for the first volume, at all events, of Professor Osler's System is somewhat cumbrous in size, while the value of many of the articles is considerably diminished by the absence of a bibliography. On the other hand the new System possesses the merit of adequate illustrations, the lack of which is a serious defect in the English work. As a matter of fact all well-found libraries will have to include both works.

The first volume now before us opens with an introduction by Professor Osler dealing with the history of medicine and including some prefatory remarks on the System itself and on the present state of the medical profession. The essay is written with the fulness of knowledge and surety of phrase which Dr. Osler has led us to expect from him. He is followed by the most brilliant of the English scientific physicians who have taken up their work on the other side of the Atlantic, Dr. J. G. Adami, Professor of Pathology in the McGill University, Montreal. Professor Adami writes on Inheritance and Disease, concluding that "the only

possible inheritance of conditions acquired by the parents is that of conditions which act upon the bodily tissues of the parent and affect also the germ cells." The effects of physical agents, such as light, heat, and electricity, are described by Dr. Alfred Gordon, and intoxication by lead, arsenic, mercury, phosphorus, carbon monoxide, and other gases by Dr. David L. Edsall. The effects of alcohol are treated of by Dr. Alexander Lambert who also deals with poisoning by opium, morphine, and cocaine. Dr. Frederick G. Novy writes on food-poisoning, as by fish, shell-fish, meat, and so forth. The subject of snake venoms is intrusted to the capable hands of Dr. Hideyo Noguchi, well known as an authority on this branch of research; there are rather an undue number of misprints in his article which is otherwise excellent. Two chapters on auto-intoxications, to which special attention is called in the preface, are contributed by Dr. Alonzo Englebert Taylor; the general conclusion of a very capable review of the whole subject would appear to be that while auto-intoxication is a favourite explanation of many obscure conditions very little is known of any actual examples of it. It is comforting to learn that "the once current notion that gout is the direct result of an excessive purin input is devoid of any experimental basis." Diseases due to the higher fungi are briefly described by Dr. James Homer Wright, the name "nocardiosis" being applied to conditions due to organisms resembling, but not identical with, the actinomyces. Dr. Gary N. Calkins writes a chapter on the protozoa, a subkingdom of which the importance in pathology has been one of the most striking discoveries of recent years, and Dr. L. O. Howard gives an account of mosquitoes of which "every person interested in human health should have some knowledge." The malarial fevers are dealt with by Dr. Charles F. Craig, some good coloured diagrams of the various parasites being given, and Colonel David Bruce, R.A.M.C., chairman of the committee of the Royal Society upon Malta Fever, writes on trypanosomiasis, a subject in which his practical knowledge is unrivalled. Dr. Richard P. Strong gives a good account of amœbic dysentery, the causal organism of which is now distinguished from the amœba coli and called entamœba dysenteriæ. The diseases due to the larger animal parasites are very fully dealt with by Dr. Charles Wardell Stiles who incidentally points out the changes which have recently been introduced into the nomenclature of the parasites in question.

A chapter on the physiology of metabolism by Dr. Russell H. Chittenden and Dr. Lafayette B. Mendel contains much interesting information as to recent advances in our knowledge in this field. Not so long ago this section would have been considered scarcely medical in character but the information given should constitute the foundation of future practice in many conditions, and for our own part we welcome these sensible methods of widening the boundaries of academic knowledge. Diabetes mellitus, diabetes insipidus, and gout are all allotted to Dr. Thomas B. Futcher who gives a full account of recent investigations in the field of physiological chemistry from which it may be hoped that light may one day be shed on these obscure maladies, though so far the light has rather conspicuously failed. Dr. Futcher inclines to accept O. Cohnheim's views as to an interaction of substances formed by the pancreas and the muscles in the utilisation of sugar and to believe that gout may be due to failure of an oxidising ferment which converts uric acid into urea. The subject of obesity is discussed by Dr. James M. Anders, rickets is intrusted to Dr. George F. Still, and scurvy to Dr. Robert Hutchison.

Written as all the articles are by acknowledged authorities, the value of the contents of the book is very great, and we regret the more that the absence of a bibliography should have caused the whole just to miss being of first-rate assistance to those desirous of gathering special information. The style of the writing, though it differs of course in different essays, is generally good, which we are unfortunately not always able to say of American publications. We meet here and there with peculiarities of diction, such as "preachment," "substrate," "different than," and the use of "respectively" for "singly"; the spelling adopted is not quite consistent, as we find "hæmoptysis" beside "hemorrhage" and "creatinin" beside "kreatinin," but we do not think that too much stress should be laid upon such slight blemishes in a work of large scope over which able contributors and able editors have obviously spared no pains.

The System is sure to secure the favour of a large public.

Morris's Anatomy. By English and American Authors. Edited by HENRY MORRIS, M.A., M.B. Lond., F.R.C.S. Eng., and J. PLAYFAIR MCMURRICH, A.M., Ph.D., Professor of Anatomy, University of Michigan. Fourth edition, revised and enlarged. London: J. and A. Churchill. 1907. Pp. 1530. Price 30*s.* net.

THIS book is so well known and appreciated both in this country and in America that a discussion of its merits would be repeating ancient history. The publishers have endeavoured to make this fourth edition international in character by securing the services of an American editor and also by placing the revision or re-writing of certain sections in the hands of American anatomists. The experiment has proved a brilliant success and authors, editors, and publishers deserve to be congratulated heartily on producing an exhaustive treatise on anatomy which is quite one of the best that has been written in the English language. An important feature of the work is the adoption of the Basle nomenclature (BNA) throughout the volume. In this connexion the publishers draw attention to a new book, already referred to in these columns, by Professor L. F. Barker of Johns Hopkins University, in which a complete list of the words used in the BNA is given and the rationale of the new terminology is fully explained. The text of the work has been carefully revised and many new and striking illustrations have been added. The section of Myology, originally written by the late J. N. C. Davies-Colley, has been revised and largely re-written by C. A. Bardeen, professor of anatomy in the University of Wisconsin. The text is all that can be desired and we note an important addition in the form of illustrations of transverse sections through the trunk and limbs. These, though useful, would have served their purpose far better had they been on a larger scale. The section on the heart, blood-vessels, and lymphatics has received revision at the hands of Florence R. Sabin, B.S., M.D., associate professor of anatomy in the Johns Hopkins University. A chapter on the architecture of the heart, together with several illustrations, has been added, while in the section devoted to the blood-vessels we notice several new and beautiful illustrations (from Kelly, by Brödel) of the blood-vessels of the ileo-cæcal region, the abdominal aorta, the renal artery, the vaginal artery and so on, and many pictures from Toldt's Atlas are to be found in the chapters on the veins. The anatomy of the lymphatics has been re-written and nearly every illustration is new. The article on the nervous system has been revised and largely re-written by Irving Hardesty, H.B., Ph.D., assistant professor of anatomy in the University of California, and appears to have been improved considerably. New pictures of the tracts in the spinal cord are given and the chapter on the nuclei of the cranial nerves has been elaborated. The old illustrations of the plexuses are retained.

In Section VII.—the Organs of Special Sense—Marcus Gunn is still responsible for the anatomy of the eye, but the ear, nose, and tongue are now described by A. T. Kerr of Cornell University. Professor Carl Huber has revised Sir Frederick Treves's articles on the organs of digestion and the

ductless glands in a very able manner. The description of the urinary and reproductive organs has been revised by Professor McMurrich. He has brought the text thoroughly up to date and has added many new and striking illustrations. The volume closes with Jacobson's excellent article on surgical and topographical anatomy which, as might be expected, needs no criticism.

The book, besides being printed on good paper, which though glazed is not too shiny, is well bound and contains an excellent index.

A Text-book of the Science and Art of Obstetrics. By HENRY J. GARRIGUES, A.M., M.D., Professor of Obstetrics in the Post-Graduate School and Hospital (resigned). Second edition, thoroughly revised. With 523 illustrations. London and Philadelphia: J. B. Lippincott Company. Pp. 888. Price 25*s.* net.

DURING the five years which have elapsed since the appearance of the first edition of this work the science of obstetrics has made considerable progress. Professor Garrigues, therefore, has carried out an extensive revision of his work and incorporated so much of the modern teaching as seemed to him good and well founded. The section on vaginal Cæsarean section has been amplified and the description of the operation is a good one, though the author on the whole does not seem to favour it over much. As he points out, dilatation with Bossi's and other dilators has given more favourable results and does not require so much skill to undertake as vaginal Cæsarean section which is not an operation to be lightly undertaken. It may be easy in any given case but on the other hand it may lead to very severe hæmorrhage and may be exceedingly difficult to carry to a successful conclusion. An account of pubiotomy has been added and the different ways of practising it by the open incision and by the subcutaneous method are described. No doubt in a future edition we shall find an account of the operation as carried out by Professor Bumm, in which the needle is introduced without any preliminary incision so that the whole operation is truly subcutaneous. In the chapter on the deformities of the pelvis the little help to be obtained by the use of the Roentgen rays is pointed out and as the author remarks even when a good photograph has been obtained it is of no value for determining the length of the pelvic diameters. A drawing is given of Bossi's dilator and the use of the instrument in certain cases is approved. It is a pity that the model figured is not the latest, a drawing of which was published at the end of 1905 or the commencement of 1906 in the monograph published by Professor Bossi and entitled "Il mio Metodo di Parto Artificiale Rapido," especially as the last model is a better instrument than any of those which preceded it.

It is a curious fact that few American obstetricians approve of the method of decapitation practised in this country with success by means of Ramsbotham's sharp hook. In this edition the German method of performing the operation by means of Braun's key hook is described and the author has taken the trouble to add a method of carrying out the same operation by means of Gigli's saw; of Ramsbotham's hook he remarks "that it is too dangerous for the mother's genitals and the accoucheur's fingers." We cannot believe that Professor Garrigues has ever employed this instrument or has seen the operation performed by anyone acquainted with its proper use. We have used this decapitating hook many times and we have yet to see the case in which it caused any injury to the mother or to the operator. Indeed, Braun's key hook is a most clumsy instrument as compared with a sharp hook.

In the treatment of eclampsia stress is laid on the results obtained by Professor Stroganoff who has treated some 113 cases of this disease with six maternal deaths and only 11 per cent. of fœtal deaths. He relies on the inhalation of oxygen during the fits, the administration of morphine and chloral, and emptying the uterus as soon as it can be done without causing harm to the patient; for this purpose he employs Champetier de Ribes's bag with continuous traction. He condemns hot baths and packs and never uses venesection. In cases where the medical man is compelled to attend a case of midwifery when he is on attendance at a septic case he is recommended to wear rubber gloves if he cannot fully disinfect his hands. How is he to ascertain if his hands are disinfected and what method is there known to us at the present time by which this desirable condition can be attained? None, so far as we are aware. Further than this, the curious statement is made that rubber gloves cannot be worn when it is necessary to introduce the whole hand into the uterus. We wonder why not, since it is precisely in these conditions that most authors insist upon the necessity for their use. Professor Garrigues, in discussing the treatment of cases of septic endometritis, lays stress on the futility of applying strong antiseptics to the interior of the uterus in such cases; yet we notice in an appendix that he quotes the method adopted by Carossa of continuous irrigation of the cavity of the uterus with alcohol, a method which obviously is antagonistic to the teaching given in the body of the work. We should have thought that recent researches on the treatment of various septic processes had shown beyond any possibility of doubt that the local application of antiseptics only does harm and that no general infection can ever be benefited by the use of strong antiseptics to a supposed local source of infection. It is disappointing, therefore, to find in this book an account given of the method of rubbing or injecting the patient with the so-called Credé's ointment or collargolum, an obviously useless treatment in the light of our present knowledge of the method of protection afforded to the body by nature.

As we have shown, the author has revised his book to a considerable extent but the descriptions of many of the obstetric operations are still scanty and the fondness for unusual and archaic forms of expression is still a marked feature of the text.

The Medical Translator. Edited by PAUL BLASCHKE, with the assistance of Dr. GUSTAVE BRESIN; Dr. E. H. SHEPARD, Assistant Professor at the University of Syracuse, U.S.A.; and ROBERT LEWIN, Professor of the German Language. First Part: A Dictionary of Medical Conversation, English-German. Pp. 224. Price 4*s.* net. German-English. Pp. 209. Price 4*s.* net. Second Part: Dictionary of Medical Terms, English, French, and German, arranged in a single alphabetical order. Pp. 450. Price 8*s.* net. Berlin and Leipsic: Walter Rothschild; Paris: Boyveau and Chevillet; London: J. and A. Churchill. 1907.

THESE books form part of a series of works intended to facilitate conversation on medical subjects between persons of different countries and all who have had to do with patients who do not understand English must appreciate books such as these. Not medical men only but nurses also will value the help here given. The conversation books are arranged alphabetically and with each word are given phrases and questions and answers dealing with it, and by an ingenious arrangement of bracketing a reader unacquainted with the language can vary the phrases as required, and with every foreign word is given its pronunciation on a simple system. An appendix may prove useful; it contains prayers both for Roman Catholics and for Protestants. This will facilitate the work of clergymen in hospitals.

The dictionary of medical terms is arranged so that each word, English, French, or German, is given in order and its equivalents in the two other languages follow. This arrangement saves repetition when the words in

the several languages are almost identical and it also prevents delay which might arise from consulting the wrong part of the dictionary if it had been arranged in several parts. We have nothing but praise for the intention and the design of these volumes and they are certain to be of great use to many both in times of peace and in war. A good general knowledge of a language is not sufficient to enable anyone to use foreign medical expressions correctly and some such work as this is an essential. It would, however, have been as well to have had the English portion of the dictionary revised by an English physician, as antiquated words occur and the English expressions are sometimes merely a literal translation of the German. Thus we find "abas" given as the English equivalent of the German "Grindkopf" and the French "tête teigneuse." "Abas" is an ancient expression for ringworm of the scalp but was also applied to other conditions such as that which we now call seborrhœic dermatitis of the scalp. It is utterly out of use and it has probably not appeared in any English medical work published during the last 50 years. Its meaning is unknown to nearly all English medical men and it is useless in such a work as we have before us. "Kurzes beschwerliches Atemholen" means shortness of breath but we find it here translated into English as "anhela." "Excarnation" is given as an English word, meaning the separation of the soft tissues from the bones. Ringworm is said to be the English meaning of "lupus." Hypersarcoma is given as a synonym of "proud flesh." Instead of an abrasion we find "attrition," in place of suppurative arthritis we get "arthrocace," and we are told that the English word for suppuration in the hip-joint is "coxarthrocace." "Phthisuria" is given as a synonym for diabetes; a cystocele is called a "urocele." Instead of dermatitis we are told that the English words are "cutitis and cytitis." "Celotomy" is given as an equivalent for herniotomy. "Tripper" is translated as blennorrhagia, a word rarely used in England; it should have been translated by "gonorrhœa" or "clap." Some other words we have met are "odontoathosia," "arctation," "crispation," and "diaphragmaligia'; they remind us of the phraseology of Count Smorltork. "Taubone" is given as an English word but who ever uses it? The terminations are often incorrect: we find "urinose" and "hernious." Misprints are not rare and they would confuse the unlearned reader; thus "tarpy childbirth" is printed for "tardy childbirth," and it took some little time to recognise that "unwobesome" was merely a misprint for "unwholesome." In English we do not speak of "searching" a wound but probing it. Many patients would be surprised to be told "to apply a spanish fly behind your ear." The phrases given in connexion with temperature and the thermometer are not sufficient. The only temperature mentioned is "15 degrees below freezing point"; that would not be of much assistance in describing the temperature of a patient.

We have not mentioned these faults to prove that the book is useless; far from it. We think that even in its present condition the book will serve many useful purposes but it urgently needs careful revision by someone well acquainted with English medicine. When a second edition appears, and we feel sure that the work deserves to attain to many editions, we hope to find that these slight faults have been remedied. We may mention that the books are bound in a washable cloth.

LIBRARY TABLE.

Manual of Diseases of the Eye. By CHARLES H. MAY, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Columbia University, New York, 1890 1903, &c. Fifth edition, revised. With 362 original illustrations, 22 plates, with 63 coloured figures. New York: William Wood and Co. 1907. Pp. 391. Price $2 net.—A short time ago (THE LANCET, July 28th, 1906, p. 233) we reviewed a Manual of Diseases of the Eye, by Dr. C. H. May and Mr. C. A. Worth. Apart from slight changes in form and varieties of print, arrangement of paragraphs, and unimportant differences in the uncoloured illustrations this book is practically identical with the English publication. Of the two the style of the latter is preferable. Doubtless the work is essentially the same as Dr. May's previous editions revised and brought up to date. If, however, the assistance which he derived from collaboration with Mr. Worth was deserving of recognition by placing his name upon the title page of the English edition it is doing him an injustice to withhold it in the American edition. Such differences in the text as occur in the present edition appear to be the result of our comments. We notice, for example, that a paragraph on diplo-bacillary conjunctivitis has been inserted and the faulty illustration of extirpation of the lacrymal sac has been replaced by one to which less exception can be taken. Of the book as a whole we have nothing to add to, or to subtract from, our former review.

A Manual of the Diagnosis and Treatment of Diseases of the Eye. By EDWARD JACKSON, A.M., M.D., Professor of Ophthalmology in the University of Colorado, &c. Second edition, thoroughly revised. With 182 illustrations and two coloured plates. London and Philadelphia: W. B. Saunders Company. 1907. Pp. 615. Price 10*s.* 6*d.* net.—The arrangement of the material in this book is somewhat different from that usually observed in ophthalmic manuals. After chapters on the examination of the patient, vision and visual sensations, external examination of the eye, and ophthalmoscopic diagnosis, considerable space is devoted to refraction. This section is good, as might be expected from an authority who has written much on retinoscopy and allied subjects. The author then passes at once to the discussion of disorders of the ocular movements. Then follow the usual chapters on diseases of the eye in the order generally adopted, concluding with a useful chapter on ocular symptoms and lesions connected with general disease. The book is a sound guide to the elementary student of ophthalmology and if we do not hail it with great enthusiasm it is because there are several other manuals in existence which, in our opinion, present the matter in a more attractive, more orderly, and better graduated manner.

Gardening in Town and Suburb. By HARRY H. THOMAS, assistant editor of *The Garden.* London: Longmans, Green, and Co. 1907. Pp. 176. Price 2*s.* 6*d.* net.—As assistant editor of *The Garden* the author has no doubt had exceptional opportunities of knowing the kind of instruction and advice which the amateur gardener is most likely to require and he has produced a very practical little book. Commencing with a short chapter on the limitations and possibilities of small gardens Mr. Thomas goes on to deal with the planning of a garden, the preparation of the soil, and the cultivation of the most suitable plants and trees. Special chapters are devoted to roses, carnations, lilies, bulbs, annuals, climbing plants, and shrubs, while the subjects of plants in tubs and fruit trees are discussed in a terse but useful manner. The warm and cold greenhouse and the frame also receive attention. Particularly interesting to town dwellers will be the chapters on roof gardening, plants in rooms, and bulbs grown in fibre in fancy bowls. The book is embellished with ten illustrations from photographs and there are several diagrams in the text, while its use as a practical manual is considerably enhanced by the inclusion of lists of plants suitable to various purposes alphabetically arranged, with notes on their individual culture, colour, habit, and so forth. Altogether the book is a useful addition to the amateur gardener's library.

THE LANCET.

LONDON: SATURDAY, OCTOBER 19, 1907.

The Prevention of Tuberculosis in Ireland.

IN the various addresses that were delivered at the opening of the medical schools throughout the country at the beginning of this month a marked feature was the stress that was laid on the prophylactic measures which are necessary in order to protect the health of the nation. One of the most eloquent of these orations was that delivered by Dr. R. F. TOBIN at the St. Vincent's Hospital, Dublin. He confined himself mainly to the prevention of tuberculosis. Quoting from the Registrar-General's report he showed that out of 74,427 deaths registered in Ireland during the year 1906 no less than 11,756, or 15·8 per cent., were attributable to a disease which is in a great degree preventable. Dr. TOBIN then remarked that it had been calculated that the ascertained mortality from tuberculous diseases might be safely multiplied by ten in order to represent approximately the number of persons living and seriously affected in the area in which the deaths occurred. Therefore he arrived at the startling conclusion that there are at this moment 120,000 people scattered over Ireland suffering in a more or less advanced degree from this infectious disease. He also pointed out that during the last 60 or 70 years (roughly speaking), while in England and Scotland tuberculous disease has decreased one-half and the population has considerably increased, in Ireland the reverse is the case. Tuberculosis has markedly increased and the population has fallen by one-half. He then gave a brief outline of the position of a medical officer of health in Ireland. He had been informed that there are only two men in the whole of Ireland who are paid to give their whole time as sanitary officers. There is also, he added, a medical officer of health in every town and dispensary district but his salary, equipment, and freedom of action leave much to be desired. We may here quote Dr. TOBIN'S own words; "If there is one person more than another in this country who does not stand alone it is that unhappy man in whom are combined the duties of dispensary doctor and medical officer of health, dependent for his fees, his holidays, his pension, his red tickets absolutely on the humour of those around him." No wonder, then, that the tubercle bacilli find most favourable ground for growth and dissemination.

Such being the unsatisfactory state of affairs as at present existing it is interesting to note Dr. TOBIN'S proposal to combat the many difficulties that must arise. We thoroughly agree with him when he says that the first step is "education and again education on the question of public health for the cultured as well as for the working classes." We have frequently maintained that one of the most potent factors against the spread of tuberculosis is the education of patients and their friends by the medical attendant in regard to the simple precautions that should be adopted in order to reduce the possibility of infection to a minimum. Dr. TOBIN refers to the difficulty that is so frequently experienced in inducing an individual to carry out two cardinal rules due to himself and his neighbour: first, cleanliness of his own body and of all premises for which he is responsible; and secondly, self-restraint in "regulating his appetites" on principles which are easily learned and which are more widely known than practised. Further, he maintained that the prevention of tuberculosis is a national matter and one that should appeal to patriotic feelings. He then referred to the "Gaelic League" and said that he believed that it would do much to further the cause of public health as it had already done to help to suppress intemperance. In a discussion which subsequently took place Dr. DOUGLAS HYDE, the President of the Gaelic League, speaking in Irish, supported the suggestion that the league should use all its influence in the desired direction. This is probably the first time that the Irish language has been used in the public discussion of medical matters in Ireland. Dr. TOBIN then proceeded further to elaborate his views as to the measures which should be enforced for the prevention of tuberculosis. He considered that every county council should be guided by a medical officer possessing a diploma of public health and receiving a salary that would enable him to give his whole time to his work and to be independent of all opinion "except that which the public expresses in its corporate form." This proposal should meet with general acquiescence. He then passed on to a subject upon which there is not such general accord—namely, compulsory notification. He does not hold extreme views on this matter. He does not propose that the medical officer of health should at once on receiving information act as would be done in cases of small-pox or scarlet fever. But he contends that much could be done by admonition and supervision, especially if the number of nurses throughout Ireland were increased. There is doubtless some force in his contention that much statistical evidence could be obtained in this way and that centres of infection might be ascertained.

In connexion with these suggestions the paper by Dr. ARTHUR RANSOME in the *British Journal of Tuberculosis* for October is of particular interest. He very rightly points to the enormous reductions which have taken place in the English and Scottish death-rates from tuberculosis in the last 65 years—reductions that must have been almost entirely due to general sanitation. He rightly declares that there is now a sort of unreasoning scare of tuberculous infection running through the whole community and adds, "the general public is joining in an outcry against permitting any poor consumptive to remain in society." If tuberculosis is made a disease which must be notified, persons with almost any chest disease will find it difficult to obtain situations. Hotels and boarding-houses are already closed to them at home and abroad. Instead of raising up fears of this kind the public should be educated to understand that the infectivity

of tubercle is conditional. It is, as we have remarked before, a question of the seed and the soil. Unless the soil is favourable the seed will perish. Let, then, the Gaelic League assist in the prevention of tuberculosis by preaching the laws of hygiene. Let its members do all they can to compel the county councils to improve ventilation and drainage and insist upon the proper housing of the poor. By these means we believe that better results will be procured than by confining attention to compulsory notification, the erection of costly sanatoriums, or the formation of colonies for the segregation of tuberculous individuals. Dr. TOBIN, by his appeal to patriotic feeling, has done much, we trust, to start a crusade against tuberculosis in Ireland on rational grounds.

Remedial Classes for Stammerers in Elementary Schools.

AN experiment of interest alike to medical men and to school teachers has recently been made by the Education Committee of Darwen in Lancashire and forms the subject of a valuable report by Dr. F. G. HAWORTH, the medical officer. A special class, composed of 38 boys and seven girls, was formed of the stammerers attending the various elementary schools under its control. This remedial class was under the tuition of an experienced teacher, Mr. W. G. YEARSLEY, and the results appear to have been most encouraging. The course was of six weeks' duration and instruction was given for four hours a day for six days in the week. The principles adopted were those generally recommended by authorities for the treatment of the complaint—correcting of the faulty methods of respiration and vocalisation which are mainly responsible for the impediment, together with prolonged and diligent practice in proper ways of breathing and speaking. But the carrying out of these principles is no easy matter, even with single tuition and undivided attention. The difficulties must be greatly multiplied in dealing with a large class of 45 and it speaks well for Mr. YEARSLEY'S discipline and power of arousing interest that he was able to obtain good results with a large number in so short a time. His methods may be briefly summarised as follows. During the first two weeks half an hour was devoted morning and afternoon to breathing exercises designed to strengthen and to practise the respiratory muscles. For two hours daily the class was drilled in vocal gymnastics by articulating vocal sounds in a prolonged monotone, by practising "explosive" utterances, and afterwards by modulating prolonged vowel sounds. Lastly, for half an hour, combined vocal, breathing, and physical exercises were employed, dumb-bells being manipulated at 80 movements to the minute, while the pupils were taught by graduated exercises to coördinate both breathing movements and vocal utterance with these rhythmical movements. There were also exercises in reading aloud in company at a fixed rate by metronome measure. During the first few weeks little more was attempted, but during the last weeks more individual attention was given with explanation of the principles involved, and reading exercises were given for the pupils to practise at home under the supervision of their parents. Dr. HAWORTH is able to report most favourably on the results obtained. The stammering habit practically disappeared in almost all cases and there was also a marked improvement in respiratory capacity and in the general condition as a result of the physical exercises. Although the work must have been hard for both teacher and pupils the latter showed great interest, "the attendance all through being almost 100 per cent. and the children instead of lagging were always too early and ever eager to begin." To insure permanently good results it would, of course, be necessary for the good methods inculcated to be persevered in after return to the ordinary classes, and at Darwen the other teachers were encouraged to witness the work of the special class in order to interest them in the methods. The course to which Dr. HAWORTH'S report alludes only finished in July last, and it will be interesting to hear the result of longer experience and the extent to which relapses may have occurred. It is possible that other Education Committees have already made similar arrangements, and it seems very desirable that in all large centres of population attempts should be made on these lines to deal with stammering children at a fairly early period of school life, before the age of ten years. A sufficient number of children could be collected once a year and if experience shows that a six weeks' course is sufficient the services of one skilled teacher could be shared by several centres. For not only is a stammerer seriously handicapped himself but his impediment is irritating to the teacher and disturbs the attention and discipline of the whole class, so that the removal of the defect early in a child's educational life would benefit the entire school.

Some Problems in Connexion with Medical Libraries.

"SHOULD the size or growth of a medical library be restricted?" This was the question propounded in a paper read by Mr. CHARLES PERRY FISHER, librarian of the College of Physicians of Philadelphia, as an introduction to a discussion and published in the *Medical Library and Historical Journal* of March, 1907. Considerations of space or accommodation sooner or later bring this question before the executive of most large medical libraries and for this reason Mr. FISHER brought the subject before an association of librarians in the hope that the discussion might bring out views useful for the solution of the difficulty encountered in this connexion. He outlined three possible courses: the first that every medical library should endeavour to make its collection as complete as possible in everything pertaining to medicine and the closely allied sciences, that every edition of a book when it is truly an edition and not merely a change of date on the title-page should be retained and every effort made to have complete files of all journals, transactions, reports, and other periodical literature, and that all pamphlets and reprints should also be retained and classified by subjects. The second course suggested was that large medical libraries should be established in certain centres so as to make the books available to the greatest possible number of practitioners. In regard to America he suggested, for example, such widely separated cities as New Orleans, St. Louis, Washington, Cincinnati or Indianopolis, New York or Philadelphia, Boston, Chicago, Denver, and San Francisco. The

third possible course considered was that in view of the extensive collection of medical literature at the Surgeon-General's Office at Washington other libraries should devote their resources to making what have been called "reference" or "working" collections, old editions of books being discarded when new ones are obtained.

Mr. FISHER confessed that his sympathies were entirely with the first of these courses. He deprecated the discarding of older editions since he stated that in his library they were sometimes demanded for purposes of reference. He admitted that a considerable percentage of books in all libraries were never used but also said that he would not like to choose the books to be discarded. In the discussion on Mr. FISHER'S paper Dr. GEORGE DOCK of Ann Arbor thought it would not be a good plan to limit the growth of libraries. It would not be sufficient to develop large collections in a few cities because with the increase of population the demand for extensive collections of medical books would become greater. He thought that in every growing city there should be a medical library conducted as actively as possible. Dr. EDWIN H. BRIGHAM of Boston suggested that it would be advisable to discard books on the collateral sciences where they were to be found in other libraries in the same locality. He was of opinion that there should be as many large libraries as possible and that old and curious books should be saved. Mr. A. T. HUNTINGTON of Brooklyn thought that no general rule could be established. He maintained that in places where it was possible to build up and to maintain a large medical library a collection should be made as large and complete in character as possible. In smaller communities it would be the best policy to maintain a good up-to-date working library. The discussion is an interesting one although no very definite conclusions seem to have been arrived at. In a progressive science with such widespread ramifications and such extensive literature as that of medicine, where reference to standard works and special monographs is so essential, it is obvious that a library is a most important, valuable, and indeed necessary aid to the scientific practitioner of medicine who may need to refer for details of various methods of diagnosis and treatment to monographs or periodicals difficult to obtain. Certainly in all university towns a medical library as complete as possible should be established under the ægis of the university, if possible with the assistance of local medical organisations, and in all towns of any magnitude a reference library as extensive as the resources available can provide would be of great assistance to the practitioner. The difficulty in such matters is to provide the mechanism for starting and maintaining them, and the various local medical societies in many towns serve a most useful function in this respect, but in not a few cases lack of combination and of organisation leads to unnecessary duplication on the one hand and incompleteness on the other.

Another problem in connexion with medical libraries where some mutual arrangement might be of great value is in regard to their closing. Doubtless not a few of our readers have suffered during the recent vacation from the closing of all the large medical libraries in the metropolis, rendering it practically impossible to refer to current continental and American medical periodicals or to works of reference. This is a real loss to many members of the assistant staffs of the great hospitals who, being in many cases in charge of wards, have opportunities for clinical research in connexion with which reference to special works may be essential. It must, moreover, strike foreign visitors as remarkable that in the greatest city in the world all the medical reference libraries have been closed during the space of one month.

Annotations.

"Ne quid nimis."

CHELTENHAM AND ITS MEDICAL OFFICER OF HEALTH.

CHELTENHAM is an inland watering-place and far-famed educational centre to which the public resorts for relief from certain ailments and to which a large number of children and young people, all at ages susceptible to water-borne and air-borne diseases, are sent term by term for purposes of education and culture. This town has been served for many years by an energetic and capable medical officer of health who has fearlessly done his duty and who, amongst other things, has endeavoured to induce the local butchers to slaughter their cattle where they can be properly examined rather than in the secrecy and ofttimes dirty conditions which obtain in private slaughter-houses. He writes interesting reports which show that he takes a conscientious interest in the protection of the health of those under his charge. Notwithstanding the admitted fact that there is against this officer not the faintest suggestion of neglect of duty, but, on the other hand, commendation of the highest order, an effort is being made to reduce his salary by £100 a year, much in the same fashion as is from time to time attempted with a Cabinet Minister as a form of censure in the House of Commons. It is said that the fearless performance of his duty by the medical officer of health with regard to prosecutions for possessing insanitary property, adulterating sugar, selling unwholesome food, or such like offences constitutes the real basis of the attack. If it be true, as is alleged, that two health resorts have endeavoured to dispense with the services of their medical officer of health owing solely to the fact that they have done their duty without fear or favour a public example by means of a public inquiry should be made of the towns in question. Moreover, in the case of Cheltenham the mayor, who is also chairman of the health committee, expressed the opinion that the town could be looked after in its health aspects by a "half-time" medical officer of health. Fortunately for himself Dr. J. H. Garrett is not subject to periodical re-election and the terms of his appointment cannot be varied without the consent of the Local Government Board. These instances surely indicate the need for reform in the conditions under which medical officers of health hold office and we are glad to see that Dr. Macnamara, Parliamentary Secretary of the Local Government Board, has recently expressed himself as fully alive to the necessity for more control in this respect being granted by Parliament to the Central Health Department which at present is only able to refuse sanction to part payment of the salary of medical officers of health out of county funds.

MR. HALDANE ON A TERRITORIAL ARMY MEDICAL SERVICE.

Mr. Haldane's schemes for the organisation and consolidation of the army and reserves cannot fail to be watched with universal interest. The fact that within the last few weeks a friendly nation has accomplished a manœuvre whereby 100,000 men were conveyed on board ship and after due interval disembarked is sufficient to prove to reasonable beings that it is high time for us to set our house in order. But as ever since the Crimean war our army in general and the medical department in particular have been "differently treated," more or less, by successive Secretaries of State for War, now depleted, now stimulated, and now drenched with alterative regulations, we confess that any anticipations that we may cherish of a finality of settlement by Mr. Haldane must be regarded in the light of a triumph of hope over experience. We believe that in the recent manœuvres in Buckinghamshire the medical arrangements have been commented on as utterly inadequate and inefficient. If it is true, as has been stated, that to two regiments of cavalry with a detachment of engineers and other items only one medical officer could be spared, it seems clear that under such conditions no forces could take the field for active service. At a meeting of his constituents held at North Berwick on Oct. 10th Mr. Haldane spoke of a scheme for the organisation of a territorial army medical service "on the footing of their being one great corps just as in the case of the Engineers," an idea which is undoubtedly sound. As the details, however, are still in the air, and as we are not cognisant of the amount of money which Mr. Haldane is prepared to ask the House of Commons to grant in the matter or the steps with which the Director-General of the Army Medical Service proposes to inaugurate the scheme, we can only speak very generally. It is most desirable, as of the greatest practical value, that the local medical conditions of the separate military commands should be investigated and placed on record as regards the towns in which hospitals already exist and the accommodation that may be found there suitable for additional temporary infirmaries. The number of villages in which cottage hospitals have been established, together with the nature and extent of local facilities for transport of sick and wounded, by which the service may be reinforced and supplemented in times of stress and emergency, should also be inquired into. The amount of local medical aid which may be available to direct such reserves is another point to take only a few of the many that will at once suggest themselves to the practical army surgeon. But we doubt if this would be sufficient in active service. Provision should, we think, be made for powerfully reinforcing the medical department in the fighting line. Putting aside all humanitarian and sentimental considerations it is obvious that the wounded cannot be attended and transported away too quickly; their presence must necessarily disquiet and depress the spirits of those around them, and if the medical staff is insufficient may demand the detachment of men who can at such times ill be spared to remove them. We would suggest that it might be practicable to form at hospitals and medical schools a magnificent reserve division of the Army Medical Corps. The junior qualified men attached in various capacities and the junior and senior students would be available for the *personnel* of officers, non-commissioned officers, and men. Two points would, however, require to be provided for specially. First and most important, the special instruction necessary should not be allowed to divert the students from their other studies. This might be managed with little difficulty if it was afforded with and intermixed with their anatomical and surgical courses. Secondly, the Government should bear all expenses of uniform and maintenance while on the public service and should compensate the school and medical staff for any additional teaching involved. But money is, no doubt, the crux of the whole question and its pitfall. We are convinced that in the case of every department of the army, as with the army as a whole, we have now arrived at the parting of the ways. Many argue that every individual in the nation is under natural obligation to train and to bear arms or to assist in some other capacity in the national defence. But at the present time it seems more than doubtful whether the great mass of the people, utterly undisciplined and saturated with every description of political and medical quackery, faddism, and false sentiments, under the specious names of freedom and independence, would ever submit to recognise such an obligation, under whatever name it may be presented to them. It only, therefore, remains that if we are to depend on a small standing army with a force of volunteers in reserve for emergency, both of these must consist of a good standard of highly trained men, to maintain whom in a constant state of efficiency no reasonable cost must be spared. In other words, good men physically and mentally of every class must be obtained, for which the market price will have to be paid.

THE FEES OF MEDICAL MEN IN CRIMINAL CASES.

THE fees payable to medical men giving professional evidence in criminal cases are fixed by an Order of the Home Office issued in 1904. It was hoped that the scale thus laid down, which is substantially higher than that which obtained for many years previously, would be applied universally and would to some extent compensate the medical witness for the loss of time and inconvenience caused to him by being compelled to attend and to give evidence in a court of law. He usually has this duty thrust upon him in consequence of having obeyed a professional call, and in many cases when a crime has been committed he has done his best to alleviate the suffering of his fellow man without hope of any reward in the form of a professional fee. In such circumstances when further loss of time ensues to him through compulsory attendance at a criminal trial it might certainly have been expected that the allowance sanctioned by law for his attendance would be paid ungrudgingly. No doubt, in the majority of instances it is so paid but we learn with regret that the practice is not universal and that in some instances the officials responsible, from a possibly well-intentioned desire to save expense, reduce the amount to a lower figure. This they are presumably able to do by the wording of the Order which says: "There may be allowed to practising members of the legal and medical professions, for attending to give professional evidence, but not otherwise, allowance not exceeding the sums stated in the following scale." Paragraphs follow which declare what these (in form) maximum sums shall be and the same words, "there may be allowed," are used throughout the Order in defining the fees of other classes of witnesses. Although, however, a discretion may thus be intrusted to the official who pays the costs incidental to the bringing of offenders to justice, it cannot, we submit, have been intended that he should exercise it without good cause or to the prejudice of the medical profession practising in his district. It may perhaps have been thought desirable that less fees should be payable in exceptional instances when the work of preparing and of giving evidence has been unusually light and when it can be done without hardship or injustice. On the whole, however, it should be remembered that on most occasions the full fees but inadequately compensate the witness for the loss of time and anxiety entailed, and it should not be forgotten that the

increased sums named in the present Order were the result of long and insistent remonstrance by, and on behalf of, the medical witness and that the amounts now laid down were fixed after full inquiry as those which were just and proper to be paid. It was not contemplated when satisfaction was expressed at the concession granted that these sums would be arbitrarily diminished merely with the idea of saving the funds from which the expenses of witnesses necessary to the administration of justice are drawn. As this form of so-called economy is likely to be felt, as a rule, locally, it should be within the powers of the medical men practising in these districts where it is exercised to bring a certain amount of pressure to bear in their own interests and in that of other members of their profession, and the matter appears to be one in which those possessing most local influence, although possibly themselves but little affected personally, should extend what assistance they can to their colleagues.

"WAR AGAINST RATS: THE VALUE OF CATS."

Lieutenant-Colonel A. Buchanan, I.M.S., contributes under the above heading an interesting letter to a correspondence in the *Times of India* respecting plague prevention. After referring to the prejudice against rat killing which is felt by the natives in many districts and which make the use of traps and poison for the purpose difficult or objectionable, the writer proceeds to show that the object in view may be better attained by encouraging the keeping of cats. The value of the cat in plague prevention has not yet (he says) been sufficiently recognised. "About a year ago my attention was drawn to a small village, which lies on the roadside between two places that had frequently been infected by plague and which had hitherto been immune from plague. The head man explained that there were practically no rats because there were so many cats. Following up the hint it was found that many villages apparently owed their immunity to the presence of numerous cats. The next step was the taking of a cat census in the Amraoti district with a view to finding out, first, whether there were many cats in the district, and second, whether it was likely that they would be valuable in preventing plague. It was estimated that there were about 33,000 cats in the district and as there had been 5000 odd deaths from plague in the last plague season there was a good opportunity of testing whether cats were really of value in preventing plague. In order to obtain a figure for comparison of villages the percentage of cats to houses was worked for 1017 villages. This part of the inquiry was done by the Revenue officials. Afterwards the number of deaths from plague was inserted opposite the name of each village in the civil surgeon's office, so that manipulation of statistics to suit any particular view would, as far as possible, be avoided. The villages were divided into three groups:—

	Number of villages.		Deaths.
Under 20 per cent. cats to houses	357	.....	3858
20 to 50 per cent.	514	.....	550
Over 50 per cent.	146	.....	14

On further investigation it was found that in one village in which there had been 13 deaths, although the cat percentage was over 50, most of the cats were brought in after the plague epidemic. It would thus seem to be a rule that a village with 50 per cent. cats to houses will be free from plague. Other investigations were made in villages in which plague had recently been prevalent and comparisons were made between houses in which cats were present and houses without cats. In every instance it was found that the number of plague cases was much less in the houses where cats were present. Before plague breaks out it is well known now that rats are very numerous and one cat is not sufficient to keep away all the rats, but there is a good deal of evidence to show that a house with three good cats that are not over-fed will be free from plague. ..... The essential element in the present policy is scrupulous consideration for the wishes and traditions of the people and the wisdom of this policy will be apparent to anyone who considers that the disease is spread by an animal that lives in the houses of the people. Now it so happens that the traditions among the people are exceedingly strong in favour of keeping cats. There are many references to the cat in the sacred book of the Mahommedans: the Hindu who kills a cat is subject to a heavy penalty and the Marwari who so strongly objects to killing rats is very willing to keep a cat. Most of the Marwaris have already got cats in this part of the country (Nagpur). It is therefore, I think, a better policy to advise Marwaris to keep cats and to avoid asking them to use traps and poison. At any rate, a knowledge of this fact affords a means whereby rat extermination can be carried on without risk of offending the religious prejudices of the people generally. For the poor, traps and poison; for the wealthy Jain and Marwari, cats. ..... We have made the first step on solid ground in recognising that rats are the cause of plague epidemics. Will it not be the second step when we realise that the best way to prevent the disease is to employ the natural enemy of the animal that is responsible for its spread?"

CHILD MORTALITY IN ENGLAND AND WALES IN 65 YEARS, 1841-1905.

DURING the six decennial periods of the 60 years 1841–1900 the annual rate of mortality in England and Wales among children aged under five years steadily increased from 66·03 per 1000 in 1841–50 to 68·60 in 1861–70, successively declined to 63·38 and 56·76 in 1871–80 and 1881–90, and showed a slight recrudescence to 57·74 in the most recent decennium 1891–1900. Child mortality, therefore, in the ten years 1891–1900, as was pointed out in the recently issued supplement to the Sixty-fifth Annual Report of the Registrar-General, exceeded by 1·7 per cent. that which was recorded in the preceding ten years; while between the ages of five and 35 years the annual rate of mortality showed a striking decline in the later decennium, ranging between 15 and 18 per cent. This slight increase in the rate of mortality under five years of age is indeed the most unsatisfactory feature resulting from the comparison of the rates of mortality in 1891–1900 with those in previous decennia. It may, however, be noted that while the annual death-rate of children under five years of age in 1891–1900 exceeded the rate in 1881–90 by 1·7 per cent., it was 15·8 per cent. below the rate that prevailed during the ten years 1861–70, and was considerably lower than the recorded rate in any decennium prior to 1881–90. The slightly increased rate of child mortality in 1891–1900 was indeed more than 10 per cent. below the mean annual recorded rate during the preceding 50 years. It is, moreover, eminently satisfactory to find that during the first half of the current decennium (the five years 1901–05) the mean annual death-rate of children under five years of age fell to 49·36 per 1000, showing a decline of 14·5 per cent. from the mean rate in the ten years 1891–1900; this rate was, moreover, very considerably lower than the mean rate in any five-year period since 1841, the earliest for which such English statistics are available. The figures published in the Registrar-General's supplemental report, referred to above, show that the increase in the mortality of infants under one year of age in 1891–1900 was equal to 5·3 per cent., against 1·7 per cent. among all children aged under five years. During the ten years 1891–1900 the deaths of infants under one year in England and Wales were equal to 160 per 1000, whereas in the previous ten years they had not exceeded 152 per 1000. During the

five years 1901–05, however, an important decline of infant mortality appears to have set in and the mean rate of infant mortality declined to 140 per 1000, a considerably lower rate than has been recorded in any single year prior to 1901 for which such statistics are available. While, therefore, the waste of child life in this country is, from a national point of view, discreditable, we feel bound to deprecate the too pessimistic tone in which this subject is so often discussed and which seems to suggest that child neglect and child mortality are seriously and steadily increasing. The figures quoted above show, at any rate, that as regards child mortality there is most conclusive evidence of marked improvement and decline.

A FRENCH NAVAL SURGEON ON HYSTERECTOMY.

A FRENCH naval surgeon, Dr. Étourneau, has performed 20 hysterectomies during the last three years and records his impressions thereon in a short and breezy article in the *Archives de Médecine Navale* for September, 1907. Hysterectomy, he says, is not only one of the most brilliant surgical operations of modern times but also one of the simplest. In the vast majority of cases no visceral intervention could be easier or less fraught with danger. His "personal statistics" are as follows: 19 operative and therapeutic successes with absolute union by first intention; one death, the subject, who suffered from a large intraligamentary fibroma of long standing, being completely worn out by her prolonged illness. None of Dr. Étourneau's patients remained in hospital longer than 25 days and in no case did the temperature exceed 38° C. When discharged the women were in every respect capable of resuming their ordinary modes of life. And yet some of them had arrived in a pitiable condition. One of the number, the first on the list, who had a fibroma weighing 4·6 kilogrammes, had to be sustained with serum injections while awaiting operation. Another, with an adherent fibroma accompanied by 12 litres of ascitic fluid, and having her right lung seriously compromised, was nevertheless cured under ideal conditions. Dr. Étourneau has seen all his patients since he operated on them and not one amongst the number has experienced the smallest trouble or inconvenience. Not a single cicatrix has weakened, although for the most part no artificial supports are worn and the women have all to work for their living. Turning to the *modus operandi* of hysterectomy, Dr. Étourneau says that there are surgeons who have made up their minds to attack the uterus solely through the abdominal walls, whilst others, "*peut-être par snobisme*," endeavour to acquire a reputation for sharpness among women who are interested in preserving the æsthetic integrity of their figures by operating exclusively through the vagina. For his part he thinks that *in medio stat virtus*. Occasionally the vaginal route may be necessary, but as a general rule abdominal section is preferable. The system of non-intervention does not commend itself to Dr. Étourneau. The longer a uterine tumour is left to itself the greater the likelihood of malignant degeneration and also of fatal adhesions being established. As for what he ironically calls the famous menopausical regression theory, he does not believe in it at all. Having given a brief description of his operative procedure Dr. Etourneau next enunciates what in his opinion are "the two primordial factors of success," not only in hysterectomy but also in operative surgery in general—namely, rapidity and hæmostasis. Too generally, he adds, it is thought that a good surgeon must be a distinguished anatomist. He does not believe it, nor is he aware that the best anatomists have eclipsed their less learned colleagues when the knife had to be used on living subjects. It may strike some people as paradoxical, he says, but a certain ignorance of anatomy, or rather an ignorance of certain anatomical details, is a distinct advantage in an operator. The efficient surgeon is born, not made. It comes natural to him to fix his forceps, to fasten his knots, and to avoid bungling his sutures. In a word, the best operator is he who uses least chloroform and reduces shock to a minimum. Rapidity, hæmostasis, and of course asepsis are the three essentials in operative surgery.

A GAME OF CARDS FROM THE HYGIENIC POINT OF VIEW.

PLAYING cards that have been used again and again would doubtless show on bacteriological examination an appalling selection of micro-organisms, and on enumerating them there surely would be found the organism which works for evil side by side with that which works no mischief. In many instances scientific examination is not needed to lay bare objectionable facts. The packs of cards which have been circulating for weeks at bridge parties sooner or later get soiled by constant contact with the human hand. Prior to dealing some persons may even be caught moistening their finger-tips with the tongue in order to facilitate the "dealing-out" process. The cards become discoloured and get sticky and thus form a favourable developing ground for micro-organisms which are handed round over and over again to partners and to opponents, the game serving in this way as a very effectual means of distributing insanitary materials. The potentialities of the evil organism are encouraged by the heated and, as a rule, badly ventilated air of the closely packed card-party room. There is little doubt that card parties are a frequent source of common colds, influenza, and catarrh. Under the physically vitiated conditions of the average card party the vitality of the human organism is soon lowered, the bacillus is there, invades the body, and soon manifests its triumph in the sneeze, the catarrh, and the sore-throat. Bridge parties are, as a rule, excellent media for the transmission of winter colds and more or less serious influenzas. The excellent efforts of those persons who show regard for their health by adopting in their own homes the policy of fresh air are completely crushed by a few hours' stay in the stuffy, unchanged air of the crowded card-room. Never is ventilation more essential than on the occasion of such a gathering but the supply of fresh air sufficient for the needs of the players is rarely provided for. The very cards played with sooner or later give unmistakeable evidence of the insanitary aspects of a card party. It may be wondered why washable playing cards are not introduced and it might even be made a rule that "the dummy" at a round of bridge should occasionally wash the pack when for a short time his rôle of player in the game is suspended. Persons who rejoice in scrupulous cleanliness and cleanly habits would surely appreciate such an innovation and there is no reason why such an eminently hygienic proceeding should occasion any delay.

POOR-LAW RELIEF FOR RELEASED PRISONERS.

THE released prisoner when suffering from bodily or mental infirmity is obviously in most instances a person who cannot take care of himself and a fitting object of Poor-law relief. This has hitherto been obtained for him by dispatching him at once to his "place of settlement," the legal phrase for the district in which a pauper's "home" is supposed to be situated, and from which he is consequently entitled to derive such aid as the Poor-law provides for him. Failing such place of settlement the discharged prisoner has usually had to be taken in by the workhouse of the Poor-law union in which the prison in which he has been confined is situated and this has naturally been regarded as a hardship inflicted upon the ratepayers thus burdened with the maintenance of strangers. A short but useful Act of Parliament passed during the recent session provides against this injustice by enabling a magistrate

possessing defined qualifications to make an order according to the facts of the case under which if the prisoner's place of settlement cannot be ascertained he may be sent to the union in which he committed his offence or in which he was convicted or was committed for trial. There are, however, some who when the time of their discharge draws near are found to be too ill to be removed to the workhouse named in the order and these under the new Act are to be taken care of temporarily in the workhouse of the union where the prison is situated but at the expense of the guardians of the union named in the order. The Act, the short title of which is "The Released Persons (Poor-law Relief) Act, 1907," applies to those leaving reformatory and industrial schools and inebriate reformatories as well as to those who have completed terms of imprisonment, and a circular has been issued to boards of guardians by the Local Government Board calling attention to, and explaining, its operation. Its effect should be to render more certain and regular the extension of humane care to persons who, whatever their faults may have been, are in need of medical aid and of nursing, and to relieve in some measure the ratepayers of large towns and the medical officers of their workhouses from responsibility for patients who have hitherto been thrust upon them by the force of circumstances.

DUGONG OIL.

WE have received from the office of the Agent-General for Queensland (73, Basinghall-street, London, E.C.), some samples of dugong oil which has been used more or less as a substitute for cod-liver oil in Queensland for many years. As a nutritive in wasting diseases it is said to give very satisfactory results. It is a clear yellowish oil of the same consistence as cod-liver oil and we find that its flavour is not objectionable. According to a note in the United States Dispensatory (nineteenth edition, 1907) the oil was introduced into use many years ago by Mr. W. Hobbs, a surgeon of Brisbane. It is obtained from two species of halicore, *Halicore Australis* (Owen) and *Halicore dugong* (Illig), which are described as cetaceous animals inhabiting the rivers and bays of Northern and Eastern Australia and many of the East India Islands. The flesh of these animals is said to be delicate and palatable and valued for food. The oil is obtained by boiling the superficial fat and is described as "bland and sweet and free from disagreeable taste and odour, so that it may be taken more freely than cod-liver oil, which it is thought to equal in virtues." According to the Standard Dictionary of the English Language (Funk and Wagnall) the dugong is "an aquatic herbivorous halicoroid sirenian mammal, commonly about eight feet long, with a pair of large tusk-like incisors in the upper jaw and bi-lobed tail." It is apparently allied to the manatee or sea-cow.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

WE have received a preliminary announcement of the International Congress on Tuberculosis which is to be held at Washington, D.C., U.S.A., from Sept. 21st to Oct. 12th, 1908. The sectional work of the Congress will be carried out in the week from Sept. 28th to Oct. 3rd and there will also be two general meetings. During the whole session of the Congress a tuberculosis exhibition will be open and a course of special lectures by distinguished men will be given. Clinics and demonstrations will be arranged for the whole period. There will be seven sections—viz., Pathology and Bacteriology; the Clinical Study and Therapy of Tuberculosis—Sanatoriums, Hospitals, and Dispensaries; Surgery and Orthopædics; Tuberculosis in Children—Etiology, Prevention, and Treatment; Hygienic, Social, and Industrial Aspects of Tuberculosis; State and Municipal Control of Tuberculosis; and Tuberculosis in Animals and its Relations to Man. The exhibition is to assemble illustrative material from all parts of the civilised world and it is hoped that it will afford members of the Congress an opportunity to acquire by exchange or otherwise a valuable collection of illustrative objects. Various awards are offered for competition, comprising medals, diplomas, and money prizes. A cash prize of $1000 is offered for the best evidence of effective work in the prevention or relief of tuberculosis done by any voluntary association since the last International Congress in 1905. A cash prize of $1000 is offered for the best exhibit of a sanatorium for the treatment of tuberculosis among the working classes. This must be a detailed exhibit, covering construction, equipment, and management. A cash prize of $1000 is offered for the best exhibit of a furnished home for the poor in the interest of the crusade against tuberculosis. Several prizes of smaller value will be offered for educational leaflets. These prizes are designed to produce new educational literature. A medal is offered for the best exhibit illustrating effective organisation of the anti-tuberculosis campaign in any State of the United States. A medal is offered for the best exhibit sent by any State or country (United States excluded) illustrating effective organisation for the restriction of tuberculosis. More detailed information concerning the awards will be published later or will be furnished on application to the Secretary-General, Dr. John S. Fulton, 810, Colorado-building, Washington. There are to be two classes of members—active members paying a fee of $5, receiving besides the ordinary privileges of membership the full set of published transactions, and associate members paying a fee of $2. The latter will receive the official badge and the printed matter distributed during the Congress, they will share in the entertainments, will attend meetings, clinics, and demonstrations, and will have the benefit of special transportation and hotel rates, but will not receive the published transactions or be able to vote in the Congress.

INVOLVEMENT OF THE CORNEA IN THE SECONDARY ERUPTION OF SYPHILIS.

INVOLVEMENT of the conjunctiva in the secondary eruption of syphilis is so rare as to be one of the curiosities of medical literature; involvement of the cornea appears never to have been described. Yet *a priori* involvement of these parts is to be expected, for in secondary syphilis the whole system is infected. In the *Journal of the American Medical Association* of Sept. 7th Dr. Brown Pusey has reported the following case in which a secondary syphilitic pustular eruption involved the cornea and ocular and palpebral conjunctivæ. A man, aged 22 years, was admitted into hospital with secondary syphilis. His general condition was poor and he had lost weight. The temperature was 100° F. There was a general macular eruption with some papules and pustules. The mucosa of the mouth was involved. There was general adenopathy and the posterior cervical glands were much enlarged. About two weeks previously the knees became tender and swollen. On examination much fluid was discovered in the joints. No primary sore could be found but there was no question that the patient had been frequently exposed to infection. The eyes became involved four weeks before admission. The ocular and palpebral conjunctivæ were the seats of a pustular eruption. In the left eye there were several pustules on the ocular conjunctiva and three on the margin of the lid. In the right eye there was one large pustule near the limbus on the outer side, three on the margin of the lid, and one a little above the centre of the cornea. The pustules varied in size; those at the margin of the lid in the left eye were 3 or 4 millimetres in diameter;

the one on the cornea was 1·5 millimetres in diameter. They were covered by yellowish exudation and had a somewhat punched-out floor. The conjunctivæ were diffusely congested and the vessels in the limbus region of the right eye were engorged. There were lacrymation and photophobia. Half a grain of protoiodide of mercury and 20 grains of potassium iodide were given thrice daily; after five days the dose of mercury was increased to three-quarters of a grain. The eyes were irrigated thrice daily with boric acid solution which was followed by the application of a drop or two of a 10 per cent. solution of protargol. At first atropine was used. Within three or four days there was marked improvement, the eyes began to recover, the fluid in the knees disappeared, and the patient felt better. By the fifth day only a greyish scar marked the position of the corneal ulcer and in two weeks the eyes had completely recovered.

THE ROYAL SOCIETY OF MEDICINE.

THE Epidemiological Section of this society will meet for the present session on the fourth Friday in each month from October to May, December excepted. The first ordinary meeting of the section will take place at 20, Hanover-square, W., on Friday, Oct. 25th, at 8.30 P.M., when Dr. Arthur Newsholme will deliver his Presidential Address on "Poverty and Disease as Illustrated by the Course of Typhus Fever and Phthisis in Ireland." The ordinary general meetings of the Therapeutical and Pharmacological Section will take place at Apothecaries' Hall, Blackfriars, S.E., at 4.30 P.M., on the fourth Tuesday of each month from October to April inclusive, except that in December the meeting will be on the third Tuesday.

THE DIAGNOSIS OF CEREBRO-SPINAL MENINGITIS BY CULTURES FROM THE BLOOD.

IN only a very few recorded cases have blood cultures been used in the diagnosis of epidemic cerebro-spinal meningitis. In the *American Journal of the Medical Sciences* for October, Dr. J. M. Birnie and Dr. M. T. Smith have reported the following case which shows the value of this method when the diagnosis is in doubt. A girl, aged 15 years, was admitted into hospital on May 5th last. In the previous summer she was a patient in another hospital where acute rheumatism complicated by endocarditis was diagnosed. Five days before admission she was seized with violent pains in the head, the neck, the arms, and the legs, and she vomited repeatedly. On admission she seemed to be tender all over the body and this rendered a satisfactory examination impossible. She cried whenever she was approached or touched. Whether rigidity of the neck or Kernig's sign was present could not be determined. There was no eruption. The cardiac dulness extended two centimetres to the right of the sternum and to the left axillary line. The apex beat was diffuse and was best seen in the sixth interspace. A whistling systolic murmur was heard at the apex and was transmitted to the axilla. The temperature was 103° F. and the white corpuscles numbered 34,800. Under antiseptic precautions one of the veins at the bend of the elbow was exposed by a small incision. The needle of an ordinary hypodermic syringe was introduced into the vein and four cubic centimetres of blood were removed and distributed equally into two flasks, each containing 75 cubic centimetres of sterile bouillon. On May 7th the bouillon was found to contain a diplococcus which was isolated in pure culture on agar plates. The organism was decolourised by Gram's method. It thus answered to all the tests for the diplococcus intracellularis meningitidis. Lumbar puncture was performed and 50 cubic centimetres of fluid were withdrawn, which also contained the diplococcus. On May 11th the opsonic index to the diplococcus was found to be 1 and the temperature varied from 103° to 103·4°. An injection of half a cubic centimetre of a "personal vaccine" containing 10,000,000 diplococci was given. On the following day the temperature fell and the patient was much brighter and ceased to cry out when approached. On the 15th the opsonic index was 1·72 and the temperature was 101·8°. The temperature continued to fall by lysis and the general condition improved. On May 17th the temperature was 99·8°, where it remained with slight variations until the 25th when it reached normal. Recovery ensued.

THE IMPORTATION OF DRUGS INTO ITALY.

AT the beginning of this year[1] our Italian correspondent commented on an official decree prohibiting the introduction into the Italian kingdom of all medicines prepared in foreign countries. The prohibition was not absolute but appeared to invite other nations to establish a system of reciprocity in the matter, as one motive of the enactment was stated to be "the desire to obtain for our own products of a similar kind a more favourable treatment abroad." An agreement has now been concluded between the Italian Government and our own whereby medical preparations are mutually admitted on certain conditions. These are that the exact composition of the substance must be stated on a label attached to the receptacle in which it is contained and that the "relative doses, as prescribed for similar products manufactured and sold in Italy" must also be stated. The last provision is not very clearly worded. What is a "relative" dose? Does the agreement mean the dose of a drug relative to the dose of a similar preparation made in Italy? Or is it a diplomatic phrase for the relative dose on a metric scale as compared with our English weights and measures? The intention of the enactment is, however, clear enough. We are, indeed, inclined to praise the wisdom of the Italian Government which insists on having the composition of proprietary remedies stated for its edification and to wish that a similar enactment in this country might at least enable the consumers of patent mixtures to judge of the probable effects of the stuff which they absorb with such touching credulity. Serums, vaccines, toxins, viruses, and similar products are excluded from the scope of the agreement.

DR. SVEN HEDIN'S TRAVELS.

LETTERS have been received at Simla from the distinguished explorer Dr. Sven Hedin dated July 25th. At the time of writing he was at the Mansarowar Lake in Tibet, and both he and his followers were well and in good spirits. The expedition had, however, sustained a serious loss by the death of the caravan leader, Mahomed Isa, who had served in the same capacity with Carey, Dalgleish, De Rhins, Younghusband, Ryder, and A. O. Rawling. He died suddenly, at the early age of 33 years, from apoplexy, during the absence of his leader. Dr. Sven Hedin says that his last journey from Shigatse to Tok-chen has been richer in results than his previous one from the Aksai Chin to Shigatse, as his route for almost the whole time lay through an inhabited country. These results, he writes, "are 1300 big pages in annotations, 203 sheets of maps, 410 specimens of rock in connexion with geological profiles, 700 panoramas, 28 astronomical points, the meteorological journal continued three times a day, all passes and camps fixed by boiling-point thermometer, at every river-crossing a detailed measurement of volume of water taken, a collection of plants, and a great number of sketches, chiefly types of the interiors of temples and landscape scenery."

[1] THE LANCET, Feb. 2nd, 1907, p. 333.

Dr. Sven Hedin also visited 14 temple monasteries, of which at least ten were hitherto absolutely unknown. One of them was a monastery of female lamas. Altogether he made 81 marches in absolutely new country. Everywhere he was met by the Tibetan officials, as well as by the Nomads, with the greatest hospitality and kindness. There is no doubt, he says, that the friendly relations which they try to maintain with Europeans are due in a very high degree to the excellent understanding which was established with the authorities by Sir Francis Younghusband when he was in Lhassa. Dr. Sven Hedin does not say what his plans are for the future, but apparently he has no intention of returning to civilisation for some time to come.

AN UNSUSPECTED BREEDING-GROUND FOR MOSQUITOES.

IN a letter to the *Times of India* the Rev. H. Mould, chaplain of Colaba, calls attention to a breeding-place for mosquitoes which he believes has hitherto escaped observation. While going round the Colaba cemetery, which is in his charge, he noticed a small "pipli" growing out of a hole in the trunk of another tree, a "karunja." He pulled it out and found the hole to be quite a foot deep and containing some inches of water at the bottom. Several mosquitoes came up out of the hole which he caused to be filled up with earth. During the next few days he found several other trees with holes in them containing water. In another "karunja" a branch had been lopped away and in the decayed stump there was a shallow cavity full of clear water "in which was quite a number of very lively mosquito larvæ." Mr. Mould brought his discovery to the notice of Colonel G. F. Gubbin, R.A.M.C., who at once gave orders to the assistant surgeon in charge of the Colaba Mosquito Brigade to examine all the trees and very soon reports were brought in of a large number in which water harbouring mosquito larvæ existed. In the same connexion Mr. Mould mentions a previous experience of his in order to show the great length of time during which water can remain in hollow trees in considerable quantities. Some years ago when riding in the jungles of Meywar he noticed by the side of the road a huge "mhava" tree, with a bamboo ladder some 15 feet long leading up to the first great fork. As he was wondering why it was there he saw a man ascend with a brass lota tied to a long string. This he lowered down inside the trunk of the "mhava" and when he drew it up again it was full of water. The man said that it was good and wholesome water and that the supply was perennial.

DEATHS UNDER ANÆSTHETICS.

THE adjourned inquest was held on Oct. 14th by Dr. F. J. Waldo, coroner for the City and Southwark, into the death of Minnie Colston Morgan, aged 29 years, who died at Guy's Hospital on Oct. 5th whilst undergoing an operation for exophthalmic goitre. A preliminary operation had been performed on Sept. 10th at which the patient was safely anæsthetised with chloroform. On the day of the fatality an attempt was made to use eucaine locally but this was abandoned on account of the nervousness of the patient and chloroform, prepared from acetone, was administered; shortly after the skin incision had been made she died. The post-mortem examination revealed a persistent thymus weighing 98 grammes and an enlarged thyroid gland weighing 202 grammes. The anæsthetic was administered by a house surgeon in the ordinary course of his duties. The jury returned a verdict of "Death from misadventure due to the administration of chloroform for a necessary surgical operation," with the rider "That in all operative cases of a serious nature anæsthetics should be administered either by a staff anæsthetist or by a resident under his immediate supervision; and, further, that full statistical tables as to anæsthetics should be kept by the authorities at Guy's Hospital," a matter on which the coroner had commented freely. The jury found that no blame attached to the house surgeon who gave the anæsthetic. In view of the importance of the case we shall publish an extended report of the medical evidence and the coroner's remarks in a future issue. Less significance attaches to an inquest held in the same court on the same day upon the death at Guy's Hospital of another patient whilst under an anæsthetic. This was a case of cut throat, in which the A.C.E. mixture was administered and the patient died shortly after its commencement. The jury, on the advice of the coroner, returned a verdict of "Suicide whilst of unsound mind."

FASHION IN DRUGS.

IN THE LANCET of Oct. 12th, p. 1060, we published an interesting note from our correspondent in Paris on the fluctuations which have occurred in the consumption of drugs during the last ten years in the Paris hospitals and kindred institutions. The figures are of particular interest as indicating the drugs which are in favour now and those which have fallen into more or less disrepute and the results are instructive, inasmuch as they represent the observations gained by practical experience as to the merits or demerits of various remedies. Opium, cinchona bark, diachylon, tincture of iodine, glycerine, potassium bromide, bismuth subnitrate, sodium salicylate, silver nitrate, calomel, and leeches hold the field as "classics" in spite of the introduction of modern synthetics. Their demand is constant. There was a decline, however, in the amounts used of iodide of potassium and iodide of sodium, of the salts of quinine, and of antipyrin. Doubtless the inorganic iodides have been replaced by organic compounds of iodine, quinine by certain synthetics (acetanilide, for example), and antipyrin by less drastic and safer antipyretics. The use of poisonous antiseptics has declined, notably corrosive sublimate, biniodide of mercury, iodoform and carbolic acid, and a similar falling off of the intestinal antiseptics such as beta- and benzo-naphthol and salol is shown. The demand for oxygenated water, however, appears to be increasing by leaps and bounds from 1000 to over 100,000 litres per year. This fact appears to show that peroxide of hydrogen is rapidly increasing in favour as an antiseptic. It is, of course, non-poisonous, non-corrosive, and unirritating, whilst it is a powerful germicide. On the whole there appears to be a reversion to old and well-tried drugs and there are many practitioners whose materia medica goes a very little further than opium, calomel, bismuth, the salicylates, quinine, and the bitters and the alkalies. Recent experience would seem to teach that with a few exceptions drugs outside this category, and more especially the complex synthetics, do not appear to enjoy the confidence which existed in them at the time of their introduction. If that be true the therapeutic pendulum obviously swings back.

THE SPREAD AND PREVENTION OF PLAGUE.

Dr. J. Ashburton Thompson's report on the spread and prevention of plague prepared for the International Congress of Hygiene and Demography at Berlin, an abstract of which we publish in this issue, is a valuable contribution to the subject. Dr. Thompson limits himself to the facts ascertained in the epidemics at Sydney, believing that the way in which plague spreads is one and the same everywhere, differences being casual and dependent on local circumstances. Careful investigation of the Sydney epidemics demonstrated that there was always a close association between plague in the rat and plague in man, that the one preceded the other, and that there was a chronicity

in rat plague as viewed from the epizootic standpoint. Thus in Sydney the plague among rats in any district was in its progress slow, long drawn out, and even insidious, and it was exceptional for large numbers of plague rats to be found in one place. The result is that rat plague might easily be overlooked in places where the search cannot be, or is not, systematically and thoroughly carried out. Dr. Thompson therefore emphasises as a very important practical rule that the discovery of a single infected rat should be taken as peremptorily indicating the most thorough scavenging and cleansing of the neighbourhood in which it was found. As regards the species of rat, he attaches no greater importance to one than to the others, all being susceptible. The prospective immunity of Europe, which is frequently based on the supposed lesser susceptibility of the Mus decumanus, thus apparently falls to the ground. Dr. Thompson believes that while plague may be casually acquired by man in several ways the flea is the ordinary agent of infection. He, however, admits that the importance of this mode of infection has still to be established by observations in the field of daily life. He evidently has not much faith in the efficacy of preventive measures against the flea but as the rat is the *fons et origo* of the infection in man he thinks the rational method of defence lies in so improving the construction of buildings as greatly to impede the entrance of rats to them and in so taking care of food that it shall not attract them. The report is full of observations and recommendations that are excellent and useful. The impression which is gathered from it is that plague is the easiest epidemic disease possible to deal with. That may have been, and indeed seems to have been, the case at Sydney but it is questionable if it is always so in different circumstances. For this reason it may be doubted whether the measures recommended would be either sufficient or applicable to largely infected areas in India, Europe, or America. We note that there is no reference to Mr. Haffkine's prophylactic.

THE annual meeting and dinner of the Association of Public Vaccinators of England and Wales will be held at the Hotel Metropole, Leeds, on Friday, Oct. 25th. The meeting will take place at 4 P.M. and the dinner at 6.30 P.M. Any further information can be obtained upon application either to Dr. Arthur Drury, Landon House, Halifax, or Mr. Charles Greenwood, 1, Mitre Court Buildings, Temple, London, E.C.

THE Department of Public Health of Queensland, in a bulletin dated Sept. 7th, states that no case of plague has occurred in Brisbane since July 26th but that one fatal case was reported on Sept. 4th from Cairns. The patient was a woman, aged 24 years, employed as a laundrymaid at an hotel. Two infected rats were found under the floor of the laundry.

THE Hamburg Scientific Society is sending two members of the Institute of Marine and Tropical Diseases to Amani in German East Africa to study sleeping sickness, relapsing fever, tsetse disease, and other diseases of human beings and the lower animals due to protozoa. Dr. Keysselitz and Dr. Martin Mayer have been selected for this service.

KING'S COLLEGE HOSPITAL.—The forthcoming bazaar to be held at the Camberwell Baths in aid of the fund for the removal of King's College Hospital to South London will be opened by their Royal Highnesses the Duke and Duchess of Connaught on the first day, Oct. 29th. Fancy dress will be worn but the costumes will not be confined to one period, as in the case of the Elizabethan fair and fête held last year. The official name of the bazaar is "Ye Olde Camberwell Fayre." It is a sort of revival of an institution that was held annually in the Middle Ages. It is just 50 years since the last fair was held. The large bath will be transformed into a realistic representation of a street in old London.

THE MODE OF SPREAD AND THE PREVENTION OF PLAGUE IN AUSTRALIA.[1]

BY J. ASHBURTON THOMPSON, M.D. BRUX., D.P.H. CAMB.,
PERMANENT HEAD, DEPARTMENT OF PUBLIC HEALTH, GOVERNMENT OF NEW SOUTH WALES.

Preface.

THE way in which plague spreads is one and the same everywhere. If it has seemed to be not identical in all countries, I think that the observed differences are casual and dependent on local habits. Man plays no part in it. Plague epizoötic in the rat is the essential factor in the diffusion of this disease and in the production of its epidemic form, but the infection of the plague rat cannot be commonly communicated to man except with the help of an intermediary. The efficient intermediary is the flea, which infests the rat and occasionally attacks man after its proper host has died. Prevention of epidemic plague consequently lies in habitually maintaining a distance between the rat and man, for measures directed against the flea can have scope only in special circumstances. The requisite separation between rat and man will be better secured by improving the construction of buildings than by attempts to exterminate the rat. These conclusions were deduced solely from epidemiological observations made in favourable circumstances at Sydney in 1900 and 1902; they have since constituted the principles on which all efforts towards the control of plague in New South Wales have been directed. They were first published in July, 1903, and they have now been confirmed by the experience of the subsequent years.

Report.

Australia escaped invasion by plague until after the disease had appeared at the capital of New Caledonia (1), an island which lies a thousand miles from Sydney, in the fourth quarter of 1899. The infection entered by way of Sydney, where attack in the first case occurred on Jan. 19th, 1900. But the people had been threatened from the time plague appeared at Hong-Kong (2, 3), and their danger was apparently increased when it began to prevail at Bombay (4) and at Mauritius (5), for with all these ports Sydney has communication in the way of trade, which in the case of the two former places is regular and frequent. In Sydney the population of about 500,000 was wholly white, wholly civilised, spoke the mother-tongue of the observers, and had been well trained in obedience to the peremptory discipline of the health authority in the course of several epidemics of small-pox which had been summarily suppressed during the preceding 20 years. The first outbreak (6) lasted from January to August, 1900, and consisted of 303 cases. A plague-free interval of 15 months ensued, terminated by the commencement of a second outbreak (7) in November, 1901, which lasted till June, 1902, and which consisted of 139 cases. It will be noticed that the numbers of cases were on the one hand large enough to avoid observational error, and on the other not so large as to cause embarrassment.

[Dr. Thompson here discussed in much detail the household distribution of the patients in the two epidemics. He also brought forward arguments adverse to the old view that healthy persons might be directly infected by plague patients, and continued as follows:]

All this evidence thus checked appears to me decisive and to warrant a general rule—namely, that the *epidemic* spread of plague occurs independently of communication of the infection from the sick and that the infection of plague spreads by means which are external to man and independent of his agency as subject of the disease.

It then fell to be inquired in what the infectiveness of locality consisted. A possible explanation was at hand. From antiquity it had been observed that rats sometimes died in numbers in places where man died from plague; and after 1894, when it was first made possible to identify the disease in the rat with the disease in man (8), this coincidence was more regularly recorded. It was even observed occasionally that the rats suffered first. But whether the rat infected man, or man the rat, and whether both did not acquire the disease independently of each other from some source which

[1] An abstract of a report to Section V. of the Fourteenth International Congress of Hygiene and Demography, held at Berlin, September, 1907. (The parenthetical numbers occurring throughout the report refer to the bibliography at the end.)

was common to both, remained undetermined. In the meantime this clue had been taken in hand at Sydney, and an attempt had been made to follow it through the maze which apparently contradictory observations had gradually woven. It was noticed first of all that the infection might suddenly manifest itself on new areas which were separated by wide tracts of plague-free houses from any other area up to that time infected and might there set going a sub-epidemic which would run its complete course independently of the course of the disease on other areas. This showed that the infection could be harmlessly transported over inhabited districts of wide extent, be planted afar, and there could take effect. It is also worth noting here that while a very short line of wharves at which the produce trade (hay, grain, chaff, potatoes, bananas, &c.) is carried on has always been the immediate source of the local infection, all the sub-epidemics referred to began either at produce stores or at stables to which produce had been carried from the neighbourhood of those wharves. It was further noticed that the connexion between the infection and locality was transient and that the simplest operations of the scavenger cleared the infection away from houses as well as from districts once for all. Mere sweeping up and destruction of accumulated rubbish, the pulling down of a few ruinous outhouses, and a general cleansing of alley-ways and basements sufficed, without any disinfection properly so-called. By these observations attention was forcibly redirected to the rat as the cause, for they were at all events most completely explicable on the supposition that the infection was diffused by some animal which was free to wander among the dwellings of man but which had access to the interior of only some of them.

By following the direction thus pointed out I found that the required close association between plague rats and man did exist in the small number of cases which constituted the outbreak of a later year (9). There were but 12 cases, spread over the seven months March to September; they occurred in nine buildings. In the small central area where the epizoötic had begun before the first case occurred, seven of the buildings stood well, or even widely, separated from each other; the other two were situated at long distances from it, the one six miles towards the south and the other ten miles towards the north. In the two last-mentioned neighbourhoods no plague nor any suspicion of infection had ever existed, and the only feature by which they were distinguished from the rest of the metropolitan district (save the central area) was the ascertained presence of plague rats and of cases in the two buildings. So also the central area was distinguished from the rest of the metropolitan area (save the two distant neighbourhoods) solely by the presence of plague rats and cases in man in the seven buildings, and of plague rats unaccompanied by cases at other parts of it. The link by which these three widely separated neighbourhoods were thus connected was also definitely discovered. Materials which experience has shown to be especially dangerous in connexion with the introduction of plague into clean places—namely, hay, chaff, and corn in the one case, and gunny-bags and similar wastes to be used in paper-making in the other—had been conveyed to the two houses from premises on the central area which were ascertained to be infected with plague in their rats. This instance should not be undervalued because the number of cases to which it relates is small. In epidemiological investigations accuracy and completeness are the essentials; large numbers introduce confusion and soon render the method impracticable. As it was, the time and labour entailed by quasi-detective inquiries into the circumstances of the patients at home, at work, and at leisure, into those of the businesses with which they were connected, into the state of the rats on premises occupied or frequented by them, into the state of the neighbourhood of the premises as to rat infection and as to freedom from it, and the establishment of dates by documentary evidence whenever possible, from time to time unduly taxed the attention of a staff not exclusively devoted to the investigation of plague.

As a rule, plague among rats in any district is so far from possessing a devastating character that its progress is slow, long-drawn out, and even insidious. The disease picks out individual rats, affects a minority of the horde at any one time, and exhibits its activity only in comparatively small circumscribed areas which are successively attacked. On individual premises I have occasionally found almost the whole colony dead; but this has been exceptional, and even there the rule has been that few plague rats and many more healthy rats have been collected during consecutive weeks. I have already published several examples (10, 11) of this which left little doubt of the fact, but the evidence was not perfectly good since it was impossible (save in one of those examples) strictly to exclude repeated invasions from the generally infected neighbourhood. Nevertheless, I can show from the cases of two ships that it was probably entitled to its *primâ facie* value; and the chronicity of epizoötic plague (not as disease but as epizoötic) seems to me a circumstance of so much importance in relation to plans for the prevention of plague that I shall describe at some length the illustrative cases presented by two ships.

The first example (12) is that of the troopship *Antillean* which sailed from Capetown on Feb. 1st, 1901, after having lain repeatedly alongside in the docks at South Arm. She first touched at Albany, Western Australia, where plague has never existed, lay there in the stream for about 48 hours from Feb. 20th, and sailed again for Sydney direct after having taken in a little coal. On Feb. 22nd cleansing of the holds was begun preparatory to her arrival and the reception of troops, and during these operations about 15 carcasses of rats were discovered and cast overboard; no definite statement as to their condition was got, but they were not dried up. She arrived at Sydney on March 2nd and reported one deck-hand sick; his case was clinically plague, the disease was identified by morphological, cultural, and inoculation tests, and he died on the fifth day of illness. The rats on board were destroyed by sulphur fumes and, as the vessel was in ballast, no difficulty was found in completely gathering their carcasses; the total number was less than 100. The great majority was free from disease; more than two, but very few, were infected. In one of the two plague was identified by morphological, cultural, and inoculation tests, and was ascertained to be present in the other by morphological and cultural tests. At Capetown (13, 14) history of unusual mortality among the dock rats reaches back to the middle of December, 1900, and the first identified plague-rat was collected there on Feb. 4th, 1901. On Feb. 27th, 1901, occurred the first case of the epidemic, which, as is well known, comprised 766 cases; but inquiry revealed (in all probability) two earlier cases, of which the first dated back to Jan. 4th. It may be taken, therefore, that the infection present on board on March 2nd may have been active since a short time before Feb. 1st when the ship sailed, but had certainly begun to take effect before Feb. 22nd; yet a majority of the few rats carried were in good health, and this notwithstanding that the single storeroom must have been a centre of attraction for all the rats.

The second case (15) is that of the barque *Alsterschwana*, 2500 tons, which left Buenos Ayres on May 17th, 1903, after having shipped a full cargo of maize in bags at Rosario, and which arrived at Sydney direct on July 19th. When this vessel got alongside many carcasses were found beneath the hatches; but as the latter had been specially closed tightly with some idea of saving the cargo from deterioration it was supposed by the master that these rats had been stifled. Nevertheless the occurrence came to notice and it was learned that 112 carcasses had been gathered and disposed of. The result of the search then carried out was the collection of 51 rats and carcasses of rats, all of which turned out to be healthy except two, in which plague was identified by morphological, cultural, and inoculation tests. Then, after a first fumigation with sulphurous-sulphuric fumes, a further and larger number of carcasses were collected and examined, among which, however, plague was identified in nine only. This search was necessarily more or less superficial, for the cargo was still in the holds, but after a second fumigation the barque was taken alongside and unloading allowed to begin; a great many more comparatively fresh carcasses were afterwards turned out, but the fact of plague infection having been fully established already further examinations were not made. Plague first appeared at Rosario (16) in September, 1899. The infection must have been carried on board the barque during 74 days, notwithstanding which a large majority of the rats which were examined were still free from plague.

General experience ashore, as distinguished from that derived from particular premises, was to the same effect. Thus the length of the epizoötic periods in each of the four years 1903 to 1906, reckoned from the first day to the last day on which a plague rodent was identified, was 4, 9, 11, and 11 months respectively. The total number of rodents examined during each of these terms was 14,671, 43,822, 28,446, and 27,731. Although there were exceptions

they may be regarded as having been all taken on the same small area of the city, and they were collected by the rat intelligence staff in a regular way, the numbers brought in week by week having been approximately uniform. All of them were examined in the laboratories and plague was identified in 161, 243, 141, and 174 of them.

When whole blocks of houses have been taken in hand and systematically cleansed no remarkable number of rats ever has been turned out. When that course has not been taken then the difficulties in the way of securing plague rats, save in small number, have lain in the fact that only healthy rats, active in their search for food, are likely to be, and as a rule are, trapped, yet trapping is the only means available to an intelligence staff, for systematic poisoning no more leads to discovery of carcasses than does plague itself.

In all these circumstances, it will be perceived, rat plague might easily be overlooked in places where the search cannot be, or is not, systematically and thoroughly carried out. From all this a very important practical rule derives—namely, that the discovery of a single infected rat should be taken as peremptorily indicating the most thorough scavenging and cleansing of the neighbourhood in which it was found. Rarely will the labour entailed have been spent in vain. The case is quite different with an imported case in man; that, as we have already seen, calls for no action in respect of the neighbourhood.

The species of Mus met with at Sydney are Mus decumanus, Mus rattus, together with its Alexandrine variety which it is unnecessary further to mention separately, and Mus musculus. These comprise all which have become domesticated. Plague has been identified in all of them and in such numbers as shows, I think, that the proportions of each species enumerated in any year depended rather on local distribution than on any difference in susceptibility.

I will now proceed to consider the manner in which the infection of plague is communicated from the rat to man. The ways which may so frequently come into operation as to cause epidemic prevalences are but two—namely, inoculation and feeding; but it is quite certain that the infection of man is not commonly brought about by feeding, and it seems to me that this conclusion rests securely on the general pathology of the disease.

The same pathological evidence strongly supports the more generally received opinion that the infection is taken by man by inoculation. Indirect evidence is furnished by the observation that the frequency with which buboes appear in this or that region of the body is closely proportionate to the extent of the drainage area from which the lymph which is filtered in the glands of those regions has been drawn (17). The bubo is the characteristic lesion of plague and is seen in all those cases in which resistance to the infection has been sufficiently strong. Its absence merely shows that resistance was defective, either absolutely or in relation to the dose or to the strain of the inoculated virus, and when the bubo does not form then primary septicæmic or primary pneumonic plague results. The bubo appears where the assault on the body was first delivered and was most strenuously resisted, and it is distinguishable from the general glandular enlargements which later occur in every part of the body by the vastly greater damage done to the gland. All the lymphatic glands ultimately exhibit some rosy tumefaction; but one, or rather often two or three adjacent and immediately connected glands, alone show evidence of the violent struggle just mentioned in hæmorrhage, necrosis, and periadenitic effusions, and they alone indicate the area of skin into which the virus was inoculated.

Inoculation into the skin might be effected in two ways. The virus may be deposited by the rat or by man on inanimate objects with which the skin of healthy man may come into contact. Such conjunction is not sufficient to infect, as is seen from the impunity with which post-mortem examinations are habitually made unless the skin happens to be wounded. The uninjured skin is an efficient defence against infection by casual contact with the virus. These considerations have long been entertained, and originally it was thought that the preponderance of buboes in the groin among unshod people resulted from absorption of the infection through the wounds commonly present on undefended feet. But at a very early stage comparison between shod whites and unshod natives exposed on the same area showed that buboes in the groin preponderated among the former just as they did among the latter. So in 1900, I observed that out of 286 habitually shod persons who exhibited buboes no less than 73 per cent. had them in the groin (18). Casual inoculation through pre-existing wounds of the skin of the lower extremity is therefore not the reason why buboes are most commonly found in the groin.

In 1902 I proceeded to inquire into the way in which man came to be inoculated in the course of daily life by the same method as had yielded the results already described in connexion with other points and to seek some explanation of the fact that such inoculation takes place in the lower extremity more frequently than elsewhere (19, 20). First, I found that 106 of the 139 cases of that year exhibited buboes in the groin. But as buboes in the femoral chain alone are evidence of inoculation in some part of the lower extremity, 46 cases in which they were situated in the inguinal chain had to be thrown out; 60 remained. But the majority of these 60 were for various reasons not available for my purpose. Thus, in 16 of them either the place at which they were infected could not be determined or the evidence for infection at home and at work was equally cogent, while in 25 others it was considered that the infection had been received at home, where, consequently, the patients had been exposed at bedtime to the risk (if any) attaching to bare feet which it was necessary to exclude. In four others the general history of the patients was defective; and in still three others, although infection probably did take place at work, the evidence was considered to be not quite unimpeachable. The result of this rigid sifting was the rejection of 48 of the 60 cases, so that ultimately 12 remained in which *solitary* buboes situated in the *femoral* chain were exhibited by persons whose movements had been ascertained with certainty and who beyond reasonable doubt were infected while at work. At their workplaces they were all fully clothed. But their skins were not completely protected by their clothes. Their hands and arms, their faces, necks, and (as the weather was hot) often their chests too, were exposed; only their lower extremities were invariably protected by boots, socks, and trousers or petticoats. Yet they were inoculated not in their exposed parts but in their protected parts. The deduction was almost obvious and quite unavoidable. Inoculation must have been effected by some agent to which neither clothes nor the epithelium offered insurmountable obstacles, by some agent which could evade the one and which could penetrate the other without causing either noticeable pain or a visible wound. The flea alone answered these requirements. Moreover, within buildings fleas live in the dust between flooring-boards and in corners outside them in the soil, and notoriously reach the legs first in places where they abound.

When these observations were first published (1903) there was very little experimental evidence that the flea possessed even the power of communicating plague between animals. It was limited to Simond's successful attempts in two experiments out of four made with an undetermined species of flea (1898), and the five successful experiments reported five years later by Raybaud and Gauthier (21, 22), which were made with the species Ceratophyllus fasciatus. Against these rare successes were to be set the greatly larger number of failures reported by several competent observers, and from my own laboratory. Since then, possession of this power by the species Pulex cheopis (Rothschild) has been placed beyond dispute by the First Report of the Plague Research Committee which was appointed as the outcome of representations made by the Lister Institute to the Secretary of State for India in 1905, and which is still working in India under the direction of Dr. Charles J. Martin, F.R.S., Director of the Lister Institute (23). It may be expected that in the next report the committee will be able to define the conditions under which this power is exercised, both in relation to species of fleas and to mechanism. Probably all fleas share it on condition that they are of kinds which infest rats and sometimes attack man. This is the more likely because the position of the bacillus among the schizomycetes seems to connote a merely mechanical transference of the infection by the flea, but, on the other hand, my field-observations seem to me to require duration of the power to infect over considerable, and even over rather long, periods (25). In conclusion, on this head I would point out that although the experimental demonstration thus furnished is essential and may be accepted as affording ground for inferring that the virus can also be conveyed by the same means from lower animals to man, yet the importance of this mode of infection as a factor in the production of epidemic plague can be established only by observation in the field of daily life. I conclude

from the investigations which have just been described above that while plague may be casually acquired by man in several ways the flea is the ordinary agent of his infection, and it as well as the rat is indispensable to produce epidemicity.

It is not possible to discuss this subject in detail within the limits assigned on the present occasion, but a few leading points can be mentioned.

In the first place, notwithstanding that plague is not *maintained* by communication of the infection from the sick, yet it is communicable from them and occasionally is seen to be so communicated. Further, although such communication from them as occasionally takes place cannot by itself give rise to epidemics, the following consideration is entitled to weight, namely: Since plague can be and generally is communicated from rat to man by the flea, so it must be possible for it to be communicated from man to the rat, an accident which might bring about an epidemic. But the frequency with which this risk will be encountered depends first on parasitic infestation of the patient, secondly on his proximity to rats, and thirdly on his disease having reached the septicæmic stage. These are chances which must weigh importantly in all countries against communication of the infection from man to rat, although in some they may have less influence than in others. Plague in the rat is almost always a septicæmic disease, but in man the primary septicæmic form occurs much less often than the bubonic, yet any bubonic case may become septicæmic shortly before death, and many do so. My own experience has furnished little which pointed to transference of the infection from the sick even to man when the circumstances have been fully discovered, but nevertheless every case of plague should be segregated, and I note that every case has always been and still is segregated at Sydney within a few hours of notification. Never have I had reason even to suspect that the infection had been communicated from man to rat.

Secondly, it would seem that preventive measures should be directed not only against the rat but against the flea, and this course has been advocated. I think it evident that it cannot be taken with hope of practical success save in special circumstances. They are these: When plague rats have been found in a dwelling or other building which is about to be cleansed the first thing to be done is to spray the floors very freely with a 5 per cent. solution of coarse carbolic acid or an equivalent solution containing mixtures of the tar acids. This is a very effectual method of driving away and of killing fleas and thus of avoiding the only risk connected with the cleansing of plague-infected premises. The residuum left from the distillation of kerosene is also efficacious for this purpose, but it is a stinking and oily substance of which the use is limited by those qualities. For the rest, it seems to me that effort to destroy fleas, which cannot be successful, must divert attention from the rat, or at least divide it. Now the flea derives its importance from the rat, and although it wanders to some distance after its host has died still the direct attack should be upon the rat. The rat is the *fons et origo* of the infection for man. When the difficulty of staying the infection by action directed to the rat is considered, and, above all, the impossibility of staying it within so short a period of time as shall effectually avoid the danger to man, I think it will be perceived that the rational method of defence lies in so improving the construction of buildings as greatly to impede the entrance of rats to them, and in so taking care of food that it shall not attract them.

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THE INTERNATIONAL SOCIETY OF TROPICAL MEDICINE.

ON the occasion of the Fourteenth International Congress of Hygiene and Demography which has just taken place in Berlin there was a meeting of the members of the Congress who are especially interested in tropical medicine. The meeting was held on Sept. 27th in the Altbaiern Restaurant and was largely attended. The following motions were adopted:—

1. The object of the International Society of Tropical Medicine is to bring together the societies of tropical medicine of different countries for the purpose of an exchange of views between the societies.
2. With this object congresses of tropical medicine are to be held about every three years.
3. The time and place where these congresses are to take place shall be determined by the committee of management.
4. The committee of management shall for the present consist of representatives of different countries, each national society of tropical medicine electing two representatives.
5. The committee of management shall meet in London within one year to consider further arrangements which may be necessary.

The meeting was attended by the following gentlemen resident in the various countries named or in their colonies:—

Brazil: Dr. Oswaldo G. Cruz (Rio de Janeiro), Dr. S. de Magalhaes, and Dr. da Rocha-Lima.

France: Dr. Borel (Havre), Dr. J. Dupuy, Médecin Sanitaire Maritime (Saint Nazaire), Professor Hugo-Marcus (Nice), and Dr. F. Mesnil (Institut Pasteur, Paris).

Germany: Privat-docent Dr. F. Doflein (Munich), Professor Fülleborn (Hamburg), Dr. Giemsa (Hamburg), Dr. Max Hartmann (Berlin), Stabsarzt Dr. Lion (Bamberg), Dr. Mense (Cassel), Professor Morgenroth (Berlin), Marine-stabsarzt Dr. Mühlens (Wilhelmshaven), Regierungsrath Professor F. Neufeld (Berlin), Professor R. O. Neumann (Heidelberg), Medizinalrat Professor Nocht (Hamburg), Physikus Dr. M. Otto (Hamburg), Professor A. Plehn (Berlin), Dr. S. Prowazeck von Lanov (Hamburg), Marine-Generaloberarzt Professor Ruge (Kiel), Marine-stabsarzt (retired) Dr. L. Sander (Friedenau), Privat-docent Dr. P. Schmidt (Leipzig), Oberstabsarzt Dr. R. Stendel (Grosslichterfelde), Marine-stabsarzt Dr. zur Verth (Charlottenburg), Privat-docent Dr. von Wasielewski (Heidelberg), and Marine-Oberstabsarzt Professor H. Ziemann (Cameroon).

Great Britain: Fleet-Surgeon O. W. Andrews, R.N., Dr. A. Breinl (Liverpool), Captain W. F. Harvey, I.M.S. (Pasteur Institute of India), Lieutenant-Colonel W. B. Leishman, R.A.M.C. (London), Sir Patrick Manson, F.R.S. (London), Lieutenant-Colonel W. G. Macpherson, R.A.M.C., Professor G. H. F. Nuttall, F.R.S. (Cambridge), Dr. F. M. Sandwith (London), and Lieutenant-Colonel D. Semple, I.M.S. (Central Research Institute of India).

Holland: Dr. P. van Andel, Offizier van Gezondheit, eerste Klasse (Hilversum), and Dr. W. T. de Vogel (Semarang, Dutch East Indies).

Italy: Professor A. Celli (Rome).

United States of America: Dr. H. G. Beyer (U.S. Navy) and Dr. R. P. Strong (Government Biological Laboratory, Manila).

The following were not present at the meeting but expressed their approval of the resolutions: Professor Chantemesse (Paris), Dr. McCaw (U.S. Army), Professor Ronald Ross, F.R.S. (Liverpool), Dr. Agramonte (Cuba), and Surgeon-General J. E. Godfrey (British Guiana).

The meeting then proceeded to the formation of the International Society of Tropical Medicine. Sir Patrick Manson, F.R.S. (proposed by Professor Nocht of Hamburg), was elected President by acclamation and Professor G. H. F. Nuttall, F.R.S., 3, Cranmer-road, Cambridge, England, was elected secretary-general and treasurer.

Owing to the large number of persons attending the Congress of Hygiene an exceptionally favourable opportunity was given for gathering together those interested in tropical medicine and in consequence the above list appears fairly representative. The following gentlemen have undertaken to assist in the formation of national societies of tropical medicine or the organisation of the work in connexion with the International Society. in Germany, Professor Fülleborn; in France, Dr. Mesnil; in Holland, Dr. de Vogel; in Italy, Professor Celli; in Brazil, Dr. Cruz; in Portugal, Dr. Kopke; in Greece, Dr. Savas; in Japan, Dr. Baelz; in the United States of America, Dr. Strong; in the West Indies and British Guiana, Surgeon-General Godfrey; and in Cuba, Dr. Agramonte. It was agreed that those who live in countries where no national societies of tropical medicine exist are at liberty to join the societies of tropical medicine in other countries. Such societies exist at present in Great Britain and in Germany.

THE LONDON MEDICAL EXHIBITION.

A LARGE number of medical men took the opportunity of viewing, at the Horticultural Hall, Vincent-square, Westminster, the most recent advances in surgical appliances, pharmacy, diet, and hygiene. The exhibition opened on Oct. 7th and closed on the 11th and although the weather was not altogether propitious the attendance was satisfactory and the arrangements for the comfort of visitors were well carried out.

That part of the exhibition devoted to pharmaceutical preparations occupied the most space and was thoroughly comprehensive. As many of these are all ready well known we may confine our review to those exhibits which seemed to present new features. Messrs. Duncan, Flockhart, and Co. (148, Farringdon-road, London, E.C.) had a good display of all their well-known anæsthetic preparations, and in addition exhibited a fluid extract of malt with formates, and epicolloid, a fluid protective plaster which rapidly evaporates, leaving a firm but pliant adhesive skin. Messrs. Baiss Bros. and Stevenson, Limited (4, Jewry-street, London, E.C.), showed a remarkably fine exhibit, including such recently introduced preparations as elixir calcii chloridi c. ferro, pasta ichthorcin, composed of ichthyol and resorcin with no offensive odour, pasta betulæ co., "mecanodyne," a denarcotised preparation of opium, and glycerol thymol co. The Angier Chemical Company, Limited (32, Snow Hill, London, E.C.), had on view their Emulsion which is too well known to need much mention and the throat tablets are favourably spoken of by those who have used them. Messrs. Hedley and Co. (92, Harrow-road, Leytonstone) exhibited pure ethyl chloride for general or local anæsthesia, also the same anæsthetic in conjunction with liq. iodoform evap., cocaine, menthol, &c. The stall of Messrs. C. J. Hewlett and Son (35–42, Charlotte-street, London, E.C.) included several excellent pharmaceutical formula besides a number of antiseptic preparations and new instruments. Messrs. Fairchild Bros. and Foster (Snow-hill Buildings, London, E.C.) had a large exhibit of their well-known digestive products. Messrs. Armour and Co., Limited (Atlantic House, Holborn-viaduct, London, E.C.), held a large display of their numerous organic therapeutic products as well as of high-testing digestive ferments. Messrs. Thomas Christy and Co. (4, 10, and 12, Old Swan-lane, Upper Thames-street, London, E.C.) displayed an extensive assortment of medical preparations of various kinds. Amongst other things Messrs. Knoll and Co. (8, Harp-lane, London, E.C.) showed specimens of bromural, a nerve sedative and mild hypnotic; and styptol, a uterine hæmostatic. Messrs. C. F. Boehringer and Soehne (Mannheim) exhibited through their London agents (Messrs. Domeier and Co., Limited, 21, Harp-lane, E.C.) a preparation of yeast fat, known as ceridin, isolated by Professor Ross, which is stated to have an abortive action on furunculosis. Messrs Parke, Davis, and Co. (Beak-street, Regent-street, London, W.) exhibited on their stall a comprehensive display of nearly all their preparations and appliances. A new preparation brought out by this firm is egmol, a nutrient and laxative containing 40 per cent. of olive oil emulsified with fresh eggs. It is claimed for this preparation that it is of value in the treatment of poisoning by acids, alkalies, arsenic, zinc, and other metals. A new appliance exhibited by this firm was a typhoid agglutometer for performing the Widal test without a microscope. Messrs. Hearon, Squire, and Francis, Limited (38 and 40, Southwark-street, London, S.E.), showed a large variety of the "Heron" pharmaceutical preparations, including a specially prepared magnesia emulsion, stated to consist of magnesium hydroxide in a colloidal state, which accounts for the fact that it does not separate. The display of Messrs. A. and M. Zimmerman (8, Lloyd's-avenue, London, E.C.) was attractively arranged and diversified in character. This firm exhibited specimens of Schering's, Kalle and Co.'s and Hell and Co.'s specialities. The novel features of the exhibit were cellotrophin, a reputed remedy for tuberculosis; herbanin, an iron preparation; billitin used in the treatment of gall-stones; and formitin, employed in the treatment of bladder diseases, dysmenorrhœa, menorrhagia, and hæmorrhoidal troubles. These are prepared by Hell and Co. Messrs. Meister, Lucius, and Brüning Limited (51, St. Mary Axe, London, E.C.) exhibited a large number of antitoxic products, together with several tuberculin preparations. Messrs. Evans, Sons, Lescher, and Webb, Limited (60, Bartholomew-close, London, E.C.), exhibited samples of a large number of their preparations, many of these being inclosed in a membrane, stated to be an effective means of passing drugs which disturb the stomach into the intestine undissolved. To this method the name of "membroids" has been given. Mr. E. Merck (16, Jewry-street, London, E.C.) showed a large assortment of chemicals and pharmaceutical preparations, including iodipin, described as a stable compound of iodine with sesame oil which is said never to give rise to iodism. Messrs. Arthur H. Cox and Co., Limited (Brighton and 37, Berners-street, London, W.), exhibited on their stall pills, tablets, and triturates of all kinds, which are of admitted elegance. Messrs. William Martindale (10, New Cavendish-street, London, W.) had perhaps the largest display of pharmaceutical preparations, together with some medical appliances, of the exhibition. These included capsules in large variety and clinical test cases, among which was an opsonic index outfit for the collection of specimens of blood on the medical man's rounds. An interesting display was made at the stall of the Anglo-American Pharmaceutical Company, Limited (3 and 5, Frith-road, Croydon). The exhibit comprised several glycero-phosphate preparations made up in syrup form, powders, liniments, and ointments. The Charles H. Phillips Chemical Company (14, Henrietta-street, Covent Garden, London, W.C.) displayed samples of their "milk of magnesia" and "phospho-muriate of quinine compound." Messrs. Oppenheimer, Son, and Co., Limited (179, Queen Victoria-street, London, E.C.), showed many elegant preparations. Among these were aseptules, hermetically sealed glass containers holding accurate quantities of sterile preparations ready for immediate use. There were also exhibited renaglandin dressings which are stated to present the hæmostatic principles of the suprarenal gland in a dry form. The Denver Chemical Manufacturing Company (41, St. Ann's-road, Burdett-road, London, E.) exhibited antiphlogistine packed in tins of varying size. An excellent display of medicated cotton, plasters, wool, gauzes, bandages, &c., was made by Messrs. Johnson and Johnson through their agents, John Timpson and Co., Limited (104 and 106, Golden-lane, London, E.C.). Jeyes' Sanitary Compounds Co., Limited (64, Cannon-street, London, E.C.), exhibited most of their well-known cyllin preparations. Cyllin is prepared in the forms of capsules, syrup, dusting powder, surgical soap, gauze, lint, wool, and pastilles.

(To be continued.)

THE TOWN COUNCIL OF SOUTHEND-ON-SEA AND ITS MEDICAL OFFICER.

AT a meeting of the Southend town council on Tuesday evening the health committee reported that in accordance with the resolution passed by the council at the August quarterly meeting advertisements had been issued inviting applications for the post of medical officer of health at £500 per annum. The advertisement had been inserted twice in the *Municipal Journal*, *Local Government Journal*, *Times*, and *Daily Telegraph*. THE LANCET and the *British Medical Journal* declined to insert the advertisement, and the latter, with the concurrence of the British Medical Association, warned its readers against applying for the appointment.

The committee added: "Under these circumstances it is not surprising that only four applications have been received, as compared with 48 upon the occasion when Dr. Nash was appointed. Your committee have considered the four applications, but they cannot see their way to recommend the council to appoint any one of the applicants. Under the above circumstances, and having regard to the very serious position in which the council is placed, your committee recommend: That Dr. J. T. C. Nash be asked to perform the duties of the medical officer of health and his other duties for a further period of 12 months from the 20th November proximo (being the expiration of the current period for which he has undertaken the duties), and that his remuneration for such services be at the same rate as hitherto—viz., £600 per annum (£80 of such salary to be allocated as his remuneration as medical superintendent at the sanatorium), and that the necessary sanction of the Local Government Board be applied for to such extended appointment."

Alderman J. FRANCIS, chairman of the health committee, before submitting the recommendation, said that Dr. P. J. S. Nicoll, honorary secretary of the Stratford division of the British Medical Association, had written to him forwarding the following resolution adopted at a recent meeting of the division, with a request that it should be read to the council:—

> Having regard to the many close associations existing between Southend and the eastern suburbs of London, the Stratford division of the British Medical Association feels justified in expressing grave concern at the position in which Dr. Nash has been placed by the action of the Southend town council. The high reputation gained by Dr. Nash as an expert in public health has gone far towards increasing the value of Southend as a holiday and health resort, for which purpose it has been habitually recommended by medical men practising throughout East London. The division therefore trusts that, in the interest of Southend itself, a full recognition of Dr. Nash's services will not be withheld.

Speaking to the committee's recommendation, Alderman FRANCIS said that it was contrary to his views and to the views of the committee, but they felt so seriously the gravity of the situation that they had worded the resolution on lines that would satisfy the majority and enable the council to settle their differences without loss of dignity. In the interests of the town and of the official concerned the committee were anxious to put an end to the dispute, and he hoped the council would appreciate the attitude the committee had adopted. He was not in a position to say that the Local Government Board would agree to the terms, because one year was a short period for them to accept; but if the council adopted the recommendation he would go with the mayor and the town clerk to the Local Government Board and impress upon them the necessity for the matter to be settled.

Councillor COLIN CAMPBELL seconded.

Councillor WRIGHT: I can't accept that after what we have gone through during the past three years.

Councillor A. C. LOWRY said that he would have voted for the recommendation if the appointment were for a further six months. Moreover, he thought the council ought to have more information about the four gentlemen who, in the face of the boycotting by the medical profession, had had the courage to apply for the post. He moved an amendment that the health committee furnish the council with the information.

Councillor BRADLEY seconded.

Councillor HUBBARD: I don't know whether it will be possible to provide any suggestion that will be acceptable to this council. If the majority are not prepared to accept the recommendation they won't accept any.

Councillor LOWRY: I can't accept more than six months.

Alderman MARTIN said that he agreed with the recommendation, but so anxious was he to end the matter that he suggested the reappointment should be one year as from last August. That would leave only a question of three months difference between the two sections on the council.

Councillor LOWRY agreed to withdraw his amendment and by 15 votes to four it was decided to reappoint Dr. Nash for nine months as from next month.

Before the vote was taken Alderman FRANCIS said that it was in the interests of the candidates that the committee had not given full information about them. He thought the council had sufficient confidence in the committee to assume that the framing of the minute indicated that in the opinion of the committee none of the applicants were qualified for the post.

The health committee also reported that they had considered correspondence from Councillor Garon with respect to his premises and had directed the clerk to reply.

Councillor HUBBARD pressed for the correspondence to be submitted to the council and amidst some disorder the following letters were read:—

H. Garon, Limited, High-street, Southend-on-Sea.

To the Chairman and Members of the Health Committee, Borough Council, Southend-on-Sea.

GENTLEMEN.—In fairness to myself, and which I am sure you will agree on reading my letter, I desire your consideration and a direct reply to my application.

During the recent discussion in the council chamber over the re-appointment of the medical officer of health for this borough, certain assertions were made by a councillor (who is also a member of the health committee), which had a distinct reference to the business carried on by me, which, probably you are aware, is now converted into a company and in which I am still largely interested.

As these assertions were subsequently published in the local and medical press there is the inference that the public believed those statements.

I would ask you, therefore, to state if your committee have in one single instance received (or is there any record of) a complaint made in connection with my business or any food manufactured or offered for sale by the company or myself?

Awaiting your early consideration,

I am, gentlemen, yours obediently,

H. GARON.

October 7th, 1907.

DEAR COUNCILLOR GARON,—Your letter of the 30th ult., addressed to the chairman and members of the health committee, was laid before that committee at their last meeting, when I was directed to inform you that there is no record in the minute book of any complaint having been made to them either as to the condition of your premises or as to the quality of the food manufactured or offered for sale therein.

It appears, however, from an inspection of the records of the medical officer of health that on the 18th of August, 1903, upon his paying a visit to the kitchen of your restaurant, he formed the opinion that there were several small matters which required attention and that he wrote to you upon the matter on that date.

Further, it appears from an inspection of his journal and letter-book that on the 18th of December, 1905, he had occasion to call your attention to the condition of some mussels which were exposed for sale at your shop, No. 68, High-street, and which upon examination appeared to have been exposed at some time to sewage pollution.

Both he and the assistant inspector of nuisances have also entries in their journals that on the 23rd May, 1905, the assistant inspector was refused inspection of your meat shop, No. 68, High-street, but that when he applied later in the day in company with the medical officer of health, permission was given and nothing could be found to which exception could be taken. Apart from these there do not appear to have been any causes for complaint.

Your letters addressed to the medical officer of health and to Mr. Whur, the inspector of nuisances, were also laid before the committee, and the medical officer of health reported to the committee that he had not supplied Mr. Councillor Doody with a copy of his letter to you of the 16th of August, 1903, as you appear to think.

Yours faithfully,

W. H. SNOW, Town Clerk.

Mr. Councillor Garon,
Warrior-square, Southend-on-Sea.

BRISTOL MEDICAL SCHOOL ANNUAL DINNER.—The annual dinner of past and present Bristol medical students was held on Oct. 1st at the Royal Hotel, Bristol, when over 100 were present. Mr. J. Herbert Parsons, an old Bristol student, was the President, and Professor Francis Gotch was the guest of the evening. In proposing "The Bristol Medical School" Professor Gotch spoke of the urgent need for a University of Bristol and showed the way to obtain it. Dr. I. Walker Hall in his reply said that all that was now wanted was the financial support of the citizens of Bristol. Professor Francis Francis replied for the Faculties of Science and Arts. Mr. E. W. Hey Groves proposed "Past and Present Students," which was replied to by Dr. Walter C. Swayne and Mr. H. R. B. Hull. Dr. J. A. Nixon proposed the health of the President, to which Mr. Parsons replied in an excellent speech.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Oct. 17th, 1829.

FLEXIBLE EAR TRUMPET.

Mr. POINTER, surgeon of Camden-town, has recently invented a flexible ear trumpet, which is constructed upon a new principle; soft and flexible gum elastic, commonly called Indian rubber, being substituted for the metallic substances usually employed in the manufacture of ear trumpets, which, by their strong vibrations, produce a painful sensation, equally on healthy organs of hearing, and diseased tympani. The very portable shape of the instrument, its facility in conveying sound, and its utterly innoxious qualities, render it a valuable acquisition to individuals suffering from a temporary or permanent affection of the ear. The outside is covered with velvet, braided, and has an ivory ear and mouth piece attached, which give it a very neat appearance, and it may be constructed of any length. Mr. Pointer is the inventor of the elastic gum pessary, mentioned some time since in the pages of this Journal.—(*From a correspondent.*)

ERGOT OF RYE.

"THE name of Dr. Blundell recalls a fact to my memory, regarding the ergot of rye, which has made some of my medical friends laugh while relating it, but which is, nevertheless, true. An old woman, a servant in the family, had a favourite Malay hen, which, to her great grief, was ten days with egg, without manifesting any inclination to lay, notwithstanding she was cooped up frequently. I told her to bring her hen up to the room in which I kept my medicines. I there thrust down her throat thirty grains of the ergot. The hen quickly after laid. Whether *post hoc* or *propter hoc*, let others determine. It speaks favourably for the ergot. I know it has been used here once, with marked effect.

"St. John's, Antigua,
"July 26th, 1829."

THE DAIRY EXHIBITION.

THE Thirty-second Annual Dairy Show, promoted by the British Dairy Farmers' Association, was held in the Agricultural Hall, Islington, from Oct. 8th to 12th, and was a decided success. Some of the cows engaged in competition yielded an extraordinary quantity of milk, and the display of butter and cheese would seem to afford conclusive proof that Great Britain is well to the front in the manufacture of these articles. As usual the butter-making competitions, which took place daily during the time when the exhibition was open, were both instructive and interesting. The portion of the exhibition, however, which most closely interests medical readers was that relating to methods for preserving milk from contamination. As perhaps the majority of medical men in this country believe in methods that will insure a pure milk-supply from the source rather than in pasteurising or sterilising measures, the apparatus shown to effect this purpose may be dealt with briefly. For a long time past it has been palpable to those who interested themselves in the matter that the ordinary milk-can used for railway transport was susceptible of some improvement. Attention has been drawn on more than one occasion in THE LANCET to the fact that many of the railway milk-churns were neither entirely dust-proof nor rain-proof. The strictures passed by THE LANCET and by other papers have had a beneficialeffect in this direction, for at all the stalls of manufacturers of dairy implements were shown milk-cans made on an improved system. Messrs. Telford, Grier, and Mackay, Limited, of Glasgow, exhibited a milk-can which was said to be absolutely dust-, rain-, and even air-proof, and Messrs. Burmeister and Wain of Copenhagen and Dublin showed one with a capacity of 13 gallons provided with a lid closing hermetically, and which can be padlocked. The Willow's Refrigerating Co., Limited, 309, Gray's Inn-road, London, also exhibited a milk-can which was stated to be dust- and rain-proof. Many other firms had on view milk-cans which claimed to fulfil these conditions, and from a necessarily somewhat cursory inspection most of the cans seemed to warrant such assurances.

One of the novelties of the exhibition was a cream jug made from wood pulp, which is intended to be thrown away after use. The advantages claimed for this receptacle are that its slight weight lessens cost of carriage and its destruction after use tends to cleanliness. Messrs. William Douglas and Sons, Putney, London, S.W., showed a regenerative heater by means of which heating and cooling are performed simultaneously. Mr. Firth of Hackney exhibited an automatic rotary alternating milk stirrer in which the milk is mixed by driving the contents of the receptacle from the bottom to the top simultaneously with the driving of the top portion to the bottom every time that the cover is lifted, so that the fat cannot accumulate on the top of the milk and therefore uniformity of quality is maintained. The Dairy Outfit Company, King's Cross, London, exhibited a milk filter with or without refrigerating pan which won the gold medal of the association.

Messrs. Burmeister and Wain obtained the silver medal for a strainer and filter combined capable of straining 100 gallons of milk per hour. The Dairy Supply Co., Limited, Museum-street, London, exhibited Dr. N. Gerber's "Sal Butyrometer" which is said to show quickly and with accuracy the percentage of butter-fat in any sample of milk. A feature of the exhibition was the attention paid to the bottling of milk. Up to a comparatively recent date only a very small quantity of milk was retailed in this country in bottles, whilst in the large cities of America at least one-third of the milk-supply is bottled, sterilised, and chilled at the dairy farms and carried to the cities in bottles. Apparently an impetus has now been given to this mode of conveying milk in Great Britain and some firms exhibited plants for the cleaning, cooling, and bottling of milk. An interesting exhibit was the "Lawrence-Kennedy-Gillies'" milking machine, which is stated to act satisfactorily, and if this indeed be so the method should be a great advance from the sanitary standpoint. Pasteurising, sterilising, and refrigerating machines were shown in great profusion, but space is lacking to notice these in detail.

The lesson to be learned from the exhibits generally is that a far more intelligent interest is being taken in the purity of the milk-supply in Great Britain by the general public than was formerly the case. Perhaps the efforts of THE LANCET from time to time to educate the community with regard to the dangers of a polluted milk-supply may have contributed to this result.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on Oct. 10th, Mr. HENRY MORRIS, the President, being in the chair.

Mr. Louis Albert Dunn was introduced and having made a declaration in the terms of the oath prescribed by the Charter of 1800 he was admitted a member of the Court of Examiners.

The SECRETARY reported the death on Sept. 8th, at the age of 82 years, of Mr. Timothy Holmes, past member of the Council and of the Court of Examiners. It was resolved:—

That the Council do hereby record their deep regret at the death of Mr. Timothy Holmes and their sincere sympathy with his widow in her bereavement. The Council do also record their appreciation of the services rendered by Mr. Holmes to the College in the conscientious discharge of the several duties which devolved upon him as a member of the Council and of the Court of Examiners.

The SECRETARY reported the death on Sept. 27th, at the age of 67 years, of Professor Charles Stewart, LL.D., F.R.S., conservator of the museum. It was resolved:—

That the Council hereby express their deep regret at the death of Professor Charles Stewart and their sincere sympathy with his widow and family in their bereavement. That the Council are sensible of the great advantages which the College derived from Professor Stewart's rare knowledge of all branches of science represented in the museum, and more particularly from the special attention which he bestowed on the physiological series, and that they hereby record their appreciation of the zeal and ability which he displayed in performing the duties of conservator of the museum during the past 23 years.

It was resolved to issue diplomas of Membership to five candidates found qualified.

The best thanks of the Council were given to Professor

C. S. Sherrington for his valued assistance in revising the proofs of Vol. III. of the Physiological Catalogue.

Mr. C. H. Golding-Bird, on behalf of the committee on the annual report of the Council, submitted a draft copy of the report to be presented to the Fellows and Members at the annual meeting on Thursday, Nov. 21st. The report was approved and adopted.

Mr. Rickman J. Godlee was re-elected a member of the committee of management.

Mr. Edmund Owen was re-elected a member, and Mr. H. H. Clutton was elected, in the place of Sir John Tweedy, a member, of the executive committee of the Imperial Cancer Research Fund.

A letter was read from the secretary to the committee appointed by the Secretary of State for the Home Department on the subject of the London Ambulance Service, stating, by desire of the chairman, that the committee would be much assisted in its inquiry if it could have brought before it evidence on behalf of the Royal College of Surgeons, and asking whether the College will depute a representative to give evidence before the committee in the course of November or December. The President was requested to give evidence.

The PRESIDENT reported that he attended the centenary celebrations of the Geological Society of London in September as the representative of the College and presented an address of congratulation on behalf of the Council.

The SECRETARY reported that he had duly received the portrait of Mr. James Moncrieff Arnott, President of the College in 1850 and 1859, which had been bequeathed to the College by the late Miss Jane Moncrieff Arnott.

MEDICINE AND THE LAW.

Preventing Infectious Diseases.

IN spite of the common belief that all sanitary precautions are of modern growth the history of the law upon the subject of safeguarding the public against the spread of infectious disorders reaches far back into the past. The learned Sir Anthony Fitzherbert, who was a judge of the Court of Common Bench in the reign of Henry VIII., describes in his treatise "*De Natura Brevium*" a writ called *de leproso amovendo*, which lies, he says, where a man is a lazar or leper and is dwelling in any town, and he will come into the church or amongst his neighbours where they are assembled, to talk with them, to their annoyance and disturbance. That writ directed the sheriff to have the man examined and if found to be a leper to cause him to be carried away to a solitary place to dwell there, as the custom is, lest damage or peril should in any wise happen to his neighbours. The scourge of leprosy was succeeded in after years by the scourge of the plague, and by a statute of James I. any person infected with the plague might be commanded by the corporate officers of a town, or by a justice or constable in a county, to keep to his house for avoiding of further infection, and might be forcibly kept in; and if he, nevertheless, got abroad and conversed in company, having any infectious sore upon him uncured, he might be punished as a felon, but if no such sore was found upon him he might be punished as a vagabond. This statute was a temporary one. However, the plague, like leprosy, gradually seems to have died out and was succeeded in turn by a new public terror—the small-pox. At last, in 1815, the common law came to close quarters with the subject in the case of Rex *v.* Ventandillo (4 M. & S. 73). There the defendant was indicted for carrying her child while infected with the small-pox along a public highway, and, having suffered judgment to go by default, appeared to receive sentence, but moved in arrest of judgment that the indictment disclosed no offence known to the law. The court thought otherwise, and Mr. Justice Le Blanc, in passing sentence, observed that although the court had not found upon its records any prosecution for this specific offence yet there could be no doubt in point of law that if a person unlawfully, injuriously, and with full knowledge of the fact exposes in a public highway a person infected with a contagious disorder it is a common nuisance to all the subjects and indictable as such. The court did not pronounce that any person who inoculated for this disease was guilty of an offence, provided it was done in a proper manner and the patient was kept from the society of others so as not to endanger a communication of the disease. In such a case the law did not pronounce it to be an offence. But no person having a disorder of this description upon him ought to be exposed publicly so as to endanger the health and lives of the rest of the subjects. Later in the same year occurred the case of Rex *v.* Burnett (4 M. & S. 272), where an apothecary was convicted on indictment for having after inoculating some children with the small-pox incautiously exposed them while infected with the disease in the public street to the danger of the public health. These cases became the groundwork of subsequent legislation. Section 126 of the Public Health Act, 1875, enacts that "any person who (1) while suffering from any dangerous infectious disorder wilfully exposes himself without proper precautions against spreading the said disorder in any street, public place, shop, inn, or public conveyance, or enters any public conveyance without previously notifying to the owner, conductor, or driver thereof that he is so suffering; or (2) being in charge of any person so suffering, so exposes such sufferer; or (3) gives, lends, sells, transmits, or exposes, without previous disinfection, any bedding, clothing, rags, or other things which have been exposed to infection from any such disorder, shall be liable to a penalty not exceeding £5; and a person who, while suffering from any such disorder, enters any public conveyance without previously notifying to the owner or driver that he is so suffering shall in addition be ordered by the court to pay such owner and driver the amount of any loss and expense they may incur in carrying into effect the provisions of this Act with respect to disinfection of the conveyance: Provided that no proceedings under this section shall be taken against persons transmitting with proper precautions any bedding, clothing, rags, or other things for the purpose of having the same disinfected." Where the Infectious Disease (Prevention) Act, 1890, has been adopted it is unlawful to retain the body of a person who has died from infectious disease in a dwelling-place, sleeping-place, or workroom for more than 48 hours or to use a public conveyance for carrying any such body without notifying the fact to the owner of the conveyance. The same Act provides for the disinfection of conveyances used to carry such dead bodies and for the compulsory disinfection of infected bedding, clothing, and other articles.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On Enteric Fever in the Urban Districts of Pontypool, Panteg, and Abersychan, by Dr. R. W. JOHNSTONE.[1]—This report is concerned with a prolonged epidemic of enteric fever which occurred last year in three adjacent urban districts in Monmouthshire: Pontypool (population 6270), Panteg (8775), and Abersychan (13,513). In the districts taken together 276 cases of enteric fever were notified and 188 dwellings were invaded by the disease during 1906. The epidemic period extended from the beginning of August to the middle of November. Its incidence was mainly on Pontypool, in which 111 out of the 188 dwellings were situated; in Panteg and Abersychan the invaded dwellings numbered 40 and 37 respectively. Of the 276 cases 172 were persons under 20 years of age; 136 were males and 140 were females. In Pontypool out of 96 attacks at ages under 20 years, as many as 59 were females. Inquiry as to the causation of the epidemic appears to have been attended by considerable difficulty on account of the large number of different circumstances which had to be taken into account in each locality. Dr. Johnstone ascertained that personal infection had played a considerable part in the spread of the epidemic in all three districts, and in a few instances there was reason to suspect that local well water, exposed to abundant opportunities of dangerous pollution, might have been associated with particular groups of cases. The milk-supply of the persons attacked came from a large number of different sources. One milkman in a large way of business supplied 24 of the dwellings in which enteric fever occurred; but the circumstances

[1] London: Wyman and Sons, Fetter-lane; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. No. 276. Price 8*d*.

did not suggest that his milk had in fact been concerned with the spread of the disease. All three districts have a public water-supply from the mains of the Pontypool Gas and Water Company, but neither the topographical incidence of the disease nor the character of the epidemic suggested that a general and simultaneous infection of the whole public supply of the area in question had occurred. But the situation of the invaded houses in Pontypool and Panteg on careful study afforded a clue to the probable origin of the epidemic. The majority (and in Pontypool during the height of the outbreak practically all) of the invaded dwellings obtained water from a particular section of the public supply. This section originated with two springs called the Folly springs arising from the carboniferous limestone. The water was piped directly into mains which supplied certain villages and groups of houses in Panteg and also a reservoir at Griffithstown in the same district. The Griffithstown mains were continued to Pontypool and the main thus bringing water from the Folly springs to Pontypool was joined by another bringing water from the Pontypool "gasworks spring." The area affected by the epidemic in the last-named district was that supplied by this mixed water and in the circumstances referred to below it seemed clear that in Pontypool the gasworks spring water was the cause of the mischief. In Panteg, however, there appeared to be a special incidence on houses supplied from the Griffithstown mains above the point where the main from the gasworks spring enters. But Dr. Johnstone ascertained that the gasworks spring water was pumped into the main at a pressure about equal to the pressure of water derived from the Folly springs, so that when on occasion the latter pressure was lowered by open taps in the Griffithstown mains and its branches it was possible that water from the gasworks spring could not only reach Pontypool but also pass backwards, as it were, up these mains, possibly as far as the Griffithstown reservoir. The gasworks spring has a large yield. It breaks out at the south bank of Trosnant Brook, and the pipe which receives its water and conveys it to the public service is about a yard from the edge of the brook and one and a half feet above the level of the brook water. There was no question about the pollution of Trosnant brook by sewage; it receives an outfall sewer a short distance above the spring, and in 1906, before the outbreak, the sewage thus discharged was in part derived from dwellings in which enteric fever had already occurred. Whether the brook water could have contaminated the spring which discharges into it, however, was less easy to determine, but Dr. Johnstone gives a number of facts which suggest that this might readily have happened. The cases in Abersychan could not be attributed directly to this water infection, but a considerable proportion of these cases occurred in the immediate neighbourhood of Pontypool among persons who ordinarily frequented the latter town. Water from the gasworks spring was cut off, in consequence of an adverse analysis, just before the epidemic reached its height and has not since been utilised. The water-mains in the section concerned were disinfected in October by mixing chloride of lime with the water in the Griffithstown reservoir, warning being given to householders in the area supplied.

On the Sanitary Circumstances and Administration of the Helmsley Rural District, by Dr. S. W. WHEATON.[2]—Dr. Wheaton has supplied an instructive contribution to the literature of rural housing. It would seem that in this district there is a demand for satisfactory and sanitary dwellings but no supply of them. In many parts the houses are conspicuously damp, the roofs are decayed and leaky, and the walls are broken. Living rooms are often without adequate windows or ventilating openings; some sleeping rooms have neither. Cowsheds and pig-sties are sometimes under the same roof as the dwelling and liquid filth from these soaks into the ground forming the floor of the house. In all the villages about Helmsley houses are seen which have tumbled to pieces. The tenants complain that the landlord will not do any repairs, although his agent will supply "some straw or a few tiles" for roof mending. The people live largely in the open air and it is to this circumstance, as well as to the fact that plenty of cow's milk is generally available, that Dr. Wheaton attributes the good physique of the large families which are often raised in these dwellings. Pulmonary tuberculosis and rheumatism are the principal diseases of the district. Goitre prevails in one village situate on the alluvial flats of the Rye valley. "Both the old and young are affected by it to a large extent. In one cottage, the occupants of which obtained the whole of their supply from the water of the Riccall issuing from the pond, I found six children, of ages seven to 14, and their mother, suffering from this disease. There had been 11 children in this family, all brought up in the house, of whom one had died from consumption, one who was away at Harrogate had goitre, and the condition of the others was not known for certain. The father was said to be free from the disease but I did not see him." Without attempting to follow Dr. Wheaton in his account of prevailing nuisances and neglect of elementary principles of rural sanitation in this district or discussing economic causes it may be said that the conditions of life in Helmsley, as judged from this report, are hardly likely in these days to attract a population "back to the land" or to keep on the land such population as now remains there.

[2] Ibid., No. 277. Price 3d.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7719 births and 4839 deaths were registered during the week ending Oct. 12th. The annual rate of mortality in these towns, which had been equal to 13·5, 14·5, and 14·8 per 1000 in the three preceding weeks, further rose last week to 15·7 per 1000. During the 13 weeks of last quarter the death-rate averaged 13·1 per 1000, the rate in London during the same period being 12·1 per 1000. The lowest death-rates in the 76 towns last week were 6·6 in Willesden, 8·1 in Hornsey, 8·5 in Halifax, 9·8 in Bournemouth, 9·9 in Great Yarmouth, and 10·0 in Ipswich; the highest rates were 23·1 in Bolton, 23·2 in Stockport, 23·4 in York, 24·1 in Wigan, and 25·4 in Merthyr Tydfil. The 4839 deaths in the 76 towns last week were 294 in excess of the number in the previous week, and included 882 which were referred to the principal epidemic diseases, against 630, 786, and 892 in the three preceding weeks; of these 634 resulted from diarrhœa, 70 from whooping-cough, 65 from diphtheria, 48 from scarlet fever, 43 from measles, and 22 from "fever" (principally enteric), but not any from small-pox. No death from any of these epidemic diseases was registered last week in Hornsey, Bournemouth, Ipswich, Great Yarmouth, or Tynemouth; the annual death-rates therefrom, however, ranged upwards in the other towns to 6·0 in Rhondda, 6·2 in Newport (Mon.), 6·9 in Sheffield, 7·1 in Wigan, 7·4 in York, 7·7 in Stockport, and 9·6 in Merthyr Tydfil. The fatal cases of diarrhœa, which in the 13 preceding weeks had risen uninterruptedly from 39 to 660, declined last week to 634, and caused death-rates ranging upwards to 5·0 in Burnley, 5·6 in Sheffield and in Rhondda, 5·8 in Rotherham, 5·9 in Wigan, 6·2 in York, and 6·7 in Stockport. The deaths from whooping-cough, which had been 91 and 68 in the two previous weeks, rose again to 70 in the week under notice; the highest death-rates from this cause were 1·1 in Newcastle-on-Tyne and 1·2 in Rochdale. The fatal cases of diphtheria, which had risen from 36 to 70 in the six preceding weeks, declined again last week to 65; the death-rates from this disease ranging upwards to 1·0 in Middlesbrough, 1·3 in Leyton, 1·4 in Newport (Mon.), and 1·5 in East Ham. The deaths from scarlet fever, which had been 26, 31, 35, and 43 in the four previous weeks, further rose to 48 last week, and included 19 in London, four in Liverpool, and two each in Manchester, Birmingham, West Ham, Hull, and Wolverhampton. The fatal cases of measles, which had been 43, 39, and 35 in the three preceding weeks, rose again to 43 in the week under notice; this disease caused a death-rate of 1·0 in Newcastle-on-Tyne, 1·7 in Barrow-in-Furness, 2·9 in Burton-on-Trent, and 4·1 in Merthyr Tydfil. The 22 deaths referred to "fever" were six in excess of the number in the previous week, and included ten in London, two in York, and one in each of ten other towns. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had risen from 2658 to 4542 in the 22 preceding weeks, had further increased to 4752 at the end of last week; 752 new cases were admitted during the week, against 695, 787, and 759 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory system, which had risen from 116 to 152 in the five preceding weeks, further increased to 175 in the week under notice, but were 32 below the

corrected average number in the corresponding period of the five years, 1902–06. The causes of 35, or 0·7 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Hull, and in 51 other smaller towns; five uncertified deaths were registered in Liverpool, five in Sheffield, three in Middlesbrough, and two each in London, Manchester, Birmingham, Preston, Northampton, and St. Helens.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 13·6 and 13·2 per 1000 in the two preceding weeks, rose again to 13·8 per 1000 in the week ending Oct. 12th, but was 1·9 per 1000 below the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 7·5 in Perth and 11·1 in Aberdeen to 16·1 in Greenock and 18·8 in Paisley. The 479 deaths in these towns last week were 22 in excess of the number in the previous week, and included 81 which were referred to the principal epidemic diseases, against 51, 64, and 57 in the three preceding weeks. These 81 deaths were equal to an annual rate of 2·3 per 1000, which was 0·7 per 1000 below the mean rate last week from the principal epidemic diseases in the 76 large English towns; they included 37 which were referred to diarrhœa, 15 to whooping-cough, 11 to "fever," nine to measles, seven to diphtheria, and two to scarlet fever, but not any to small-pox. The deaths from diarrhœa, which had been 31 and 23 in the two previous weeks, rose again to 37 in the week under notice, and included 24 in Glasgow, three in Dundee, three in Aberdeen, and two each in Edinburgh, Leith, and Greenock. The fatal cases of whooping-cough, which had been 10, 15, and 17 in the three preceding weeks, declined again last week to 15, of which seven occurred in Glasgow, four in Edinburgh, and two in Dundee. The deaths from "fever," which had been six, eight, and ten in the three preceding weeks, further rose to 11 in the week under notice, and included four from cerebro-spinal meningitis, three from enteric fever, and two from typhus fever in Glasgow, and one from cerebro-spinal meningitis in Edinburgh and in Paisley. The fatal cases of measles, which had been six and two in the two previous weeks, rose again last week to nine, of which five were registered in Glasgow and three in Dundee. The deaths from diphtheria, which had been three, two, and three in the three preceding weeks, further increased to seven last week, and included four in Glasgow and three in Paisley. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 58 and 65 in the two preceding weeks, declined again to 51 in the week under notice, and were 29 fewer than the number in the corresponding period of last year. The causes of 12, or 2·5 per cent., of the deaths registered in these eight towns last week were not certified or not stated; in the 76 English towns the proportion of uncertified deaths did not exceed 0·7 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been 18·6 and 21·0 per 1000 in the two preceding weeks, declined again to 20·2 per 1000 in the week ending Oct. 12th. During the 13 weeks of last quarter the death-rate averaged 18·7 per 1000, the rate during the same period being 12·1 in London and 12·6 in Edinburgh. The 151 deaths of Dublin residents registered during the week under notice were six fewer than the number in the previous week, and included 30 which were referred to the principal epidemic diseases, against 13, 22, and 18 in the three preceding weeks; they included 23 from diarrhœa, three from "fever," two from whooping-cough, one from measles, and one from diphtheria, but not any from small-pox or from scarlet fever. These 30 deaths were equal to an annual rate of 4·0 per 1000, the death-rates last week from the principal epidemic diseases being 2·0 in London and 1·1 in Edinburgh. The fatal cases of diarrhœa, which had been ten, 17, and 12 in the three preceding weeks, further rose last week to 23. The 151 deaths from all causes included 42 of children under one year of age and 33 of persons aged upwards of 60 years; the deaths of infants were 14 in excess of the number in the preceding week, while those of elderly persons showed a slight decline. Three inquest cases and four deaths from violence were registered; and 53, or 35·1 per cent., of the deaths occurred in public institutions. The causes of three, or 2·0 per cent., of the deaths registered in Dublin last week were not certified; in London the proportion of uncertified deaths did not exceed 0·2 per cent., while in Edinburgh it was 3·4 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon: N. L. Richards to Bermuda Hospital. Staff Surgeons: E. R. Grazebrook to the *Pembroke*, additional, to be lent to the *Wildfire* for the *Endymion*; A. J. Laurie to the *Tenedos*. Surgeons: F. Cock to the *Mars*; A. B. Cox, lent to the *Black Prince*, temporary.

ROYAL ARMY MEDICAL CORPS.

Lieutenant James C. L. Hingston, from the Seconded List, to be Lieutenant (dated Oct. 1st, 1907).

ROYAL MALTA ARTILLERY.

Surgeon-Lieutenant Robert Randon to be Surgeon-Captain (dated Oct. 5th, 1907).

DEATHS IN THE SERVICES.

Captain J. A. Dredge, I.M.S., at Glastonbury recently, in his thirty-fifth year. He joined the service in 1897 and was promoted to the rank of captain in 1900. He served in China in 1900 (medal). He had latterly served as staff surgeon at Bangalore.

Lieutenant-Colonel Edwin Oswald Milward, R.A.M.C., aged 54 years, at Oxford, on Oct. 1st. He served through the South African war, including the relief of Ladysmith, and also took part in the actions of Colenso and Spion Kop, the Tugela Heights, Vaal Kranz, and Pieter's Hill (Queen's medal with six clasps and the King's medal with two clasps and mentioned in despatches).

ARMY MEDICAL REORGANISATION.

Mr. Haldane, recently addressing his constituents at North Berwick, dwelt, as might have been anticipated, at some length upon his Army scheme and upon the steps which had already been taken to give effect to the new organisation which that scheme entailed. The Secretary for War took occasion at the same time to announce that in connexion therewith an important movement was about to take place in the way of a reorganised medical force. They had been for some time past, he is reported to have said, considering how best they could invite the medical profession to assist the territorial army, and the Director-General of the Army Medical Service was coming down to make a beginning with Scotland by inaugurating the creation of a reorganised medical force for the territorial army. This territorial medical service was wanted in time of war, not only to treat wounds, but to secure sanitation and health preservation. The War Office could not proceed with this wholly on a regimental basis. They proposed to work on the footing of there being one great corps, just as in the case of the Engineers. The various medical units which were necessary for the divisions of the territorial army would be raised, as far as possible, within the areas in which these divisions were to be formed. As well as the *personnel* of officers, non-commissioned officers, and men required for the special duties outside these units, the coöperation of experts engaged in preventive medicine would also be sought. These experts would be asked to give their advice in time of war should troops be massed in the vicinity of their spheres of work, but the War Office did not propose to make undue demands upon the time of these distinguished men. They were also going to ask the nursing profession to volunteer in time of war to serve in the territorial hospitals according to a scheme which the War Office would shortly put forward.

MEDICAL ARRANGEMENTS AT MANŒUVRES.

The *Army and Navy Gazette* of Oct. 12th says that, "In view of the inadequacy of the medical arrangements in the recent manœuvres, it would be an advantage if Mr. Haldane would authorise and provide money for manœuvres for the Army Medical Service, such as have recently been taking place in France, in the neighbourhood of Douai. These particular operations began on October 2nd with conferences,

at which the principal medical officers discussed with their subordinates the measures to be taken. M. Hussenet, technical director of the manœuvres, dealt with the general work to be done and with the operations of the service in the field, and General Hurstel also addressed the assembled officers. Another medical officer explained the working in detail of the system of the advanced stations. The troops employed for these operations were furnished principally by a territorial regiment, which began work in very heavy rain. The bearers were instructed and trained in the methods of finding and carrying away the wounded, with proper precautions, to the dressing stations, and a medical officer from the auxiliary hospital at Laon was present and gave instructions in the use of new wheel ambulances, and showed how 400 wounded would be treated at Laon. After the exercises of the bearers, came trials of special apparatus, including the tortoise tent, which can shelter 28 wounded and has for support and base the wagon which carries it. It was brought into use with great rapidity. The Herbert tent, which is a veritable field hospital, required about three hours to instal, perhaps through the inexperience of the men. These and other operations and trials have been very successful and the men have been well exercised and trained in the conduct of the medical service and equipments on the road and in the field."

THE LATE MAJOR T. W. A. FULLERTON, I.M.S.

The brother officers of the late Major T. W. A. Fullerton, I.M.S., are subscribing to place a brass tablet to his memory in the cathedral at Allahabad. It is also proposed to raise a fund to secure a further memorial in the shape of a lancet window in the cathedral. Contributions for this object may be forwarded to Colonel R. D. Murray, I.M.S., Oak Park, Naini Tal, North-West Provinces, India.

THE NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on Oct. 8th, Inspector-General W. Harris Lloyd, R.N., in the chair, the sum of £50 was distributed among the several applicants.

HASLAR HOSPITAL.

An advanced course for senior naval medical officers was commenced at Haslar Hospital on Oct. 14th. The course will last six weeks, 24 days being devoted to practical work.

Correspondence.

"Audi alteram partem."

MEDICAL PRACTITIONERS AND MEDICAL REFEREES UNDER THE WORKMEN'S COMPENSATION ACT, 1906.

To the Editors of THE LANCET.

SIRS,—I regret that my absence from London has prevented my seeing before the leading article in THE LANCET of Sept. 28th, p. 906, referring to my letter which you kindly inserted on Sept. 21st. As the question is one of very great importance to every class of medical practitioner I venture to ask you to allow me to state at somewhat greater length the opinions I have formed after a very large experience of medical examinations under the Workmen's Compensation Act of 1897 and some of the reasons which have induced me to form them. Your article was largely based on the Regulations which appear in Order No. 484, which apply to appeals from the decisions of certifying factory surgeons, whereas my letter was intended to apply to the Regulations in Order No. $\frac{433}{L.\ 11,}$ which deal with the examinations of medical referees in Workmen's Compensation cases, where the facts as to the amount of injury or disability are in dispute.

The question of the decisions of certifying factory surgeons is a very small one in comparison with the great question as to awards and assessments in disputed claims for compensation under the Act, which are already amounting to a very large number in all classes of employment. Bearing in mind that under the new Act the decisions of the medical referees are to be "final and conclusive" I think everyone will agree with me that the fullest possible information as to the medical history of every individual case should be placed before the medical referee. My experience is that it is impossible to obtain from an injured person a trustworthy medical history, and this I say without any innuendo against claimants as a whole, a large majority of whose injuries are *bonâ-fide*, or against workmen as a class. I say it because it is practicably impossible for an injured person of any rank in life who has not had medical training to give a history of his case without magnifying trivialities and perhaps omitting to detail points which have an important bearing on the case.

I therefore consider that the medical attendant of the workman should certainly be present at an examination of a workman by a medical referee, but I do not think that, at any rate, the great employers would be satisfied with a decision when the medical referee had examined a workman in consultation with the workman's medical attendant and in the absence of the medical practitioner "provided and paid by the employer" and upon whose previous report the case was being contested. Having this in view I suggest that the employer should, if he thinks fit, be able to be represented by a medical man at an examination made by a medical referee. With all due deference to your legal adviser I am advised that the paragraph on Forms A and B, to be sent by the medical referee to both employer and workman, would fully permit an employer or workman to be represented at the examination by a medical man, it being: "Any statement made or submitted by you will be considered."

In my opinion, however, the ideal method for the employment of medical referees is that they should sit with the judge as assessors, they would hear the medical evidence on both sides, they would then examine the claimant in consultation and advise the judge on the purely medical points. The judge would not have to give his decision on a mere written report but would have an opportunity of questioning the medical referee and satisfying himself fully as to the medical aspects of the case. From my experience I do not think your point as to the workman being unable to have funds to pay his medical adviser would in practice be operative, as contested cases are always in solicitors' hands, and they continually arrange for a medical man to be present on behalf of the workman at the examinations of the practitioner provided by the employer, and in court medical evidence has now to be produced in every case where the amount of injury is in dispute. It would be much less expensive for the workman to have his doctor present at the examination of the medical referee when a final decision on the medical points would be obtained than for the medical attendant to leave his practice and come to court where much time would necessarily be lost.

I am, Sirs, yours faithfully,

ALBERT BENTHALL.

Fellows-road, South Hampstead, N.W., Oct. 7th, 1907.

*** Such a procedure as that suggested by Mr. Benthall would, we have no doubt, be satisfactory and would conduce admirably to a full and proper understanding of the case. We do not, however, quite follow the latter half of his last paragraph; our suggestion was that whereas under the old Acts the injured workman was usually helped to press his claim by a trade organisation, many cases will now be brought forward by workmen not so supported, the class to be benefited having been enlarged. The interpretation of the words "statement submitted" is one upon which everyone is entitled to his opinion. Apart from any authority, of which we are not aware, we do not think that the expression "statement submitted" necessarily allows the submission of a medical man to make a statement. "Making" and "submitting" seem to us to have been intended to distinguish between the statement made by the workman himself, possibly orally, and those "put in" by him in writing. The expression used is the same in both classes of rules and if we referred to the regulations laid down for appeals from certifying surgeons it was not because these supported the view which we advanced any more than do the others. We note, however, that in the regulations made under the first and second schedules of the Act the following passage occurs, R. 21, Par. 2: "The reference shall be accompanied by a general statement of the medical evidence given on behalf of both parties; and if

such evidence has been given before a committee or an agreed arbitrator, each medical witness shall sign the statement of his evidence and may add any necessary explanation or correction," and that statement seems to be used generally for a report or statement made in writing. The question is one of interest and will, no doubt, be raised and decided authoritatively before very long.—ED. L.

SCHOLARSHIPS FOR RESEARCH ON THE EFFECTS OF ALCOHOL.

To the Editors of THE LANCET.

SIRS,—I note with surprise in your leading article on the giving of scholarships for research on the effects of alcohol by the National Temperance League that you heartily commend the movement. What value such a research, conducted under the auspices of a strongly biased syndicate and superintended by those who are well known to be prejudiced, can possibly have I for one entirely fail to see. The teetotal attitude towards science in the past has been very much like that of the Caledonian Sabbatarian who, when he was reminded that Christ regarded the Sabbath from a less narrow point of view than he did, replied that he knew it and did not think any the better of Him for so doing.

When science has appeared to support total abstinence well and good, but if not then so much the worse for science. A hundred fallacies are apt to creep into such an attempt as this to reduce to the limits of an exact science what is essentially an inexact one. It has been stated that frog and pigeon physiology has been the bane of clinical medicine, so likewise are these pseudo-scientific investigations instituted not really with a view of arriving at an impartial judgment but to bolster up a particular fad, and "At the outset this overwhelming difficulty presents itself that that which is harmful to one person may be indifferent in its effects upon another or even beneficial to him."

You lay stress upon the fact that only men who have the confidence of the profession are to be chosen, but the names published are those of well-known teetotalers. As well might one expect to arrive at an impartial judgment regarding, let us say, the question of vivisection by studying the results of a research carried out by the antivivisectionists. These investigators are to test the effects of alcohol upon a man's capacity for work, but the capacity for work (unless the man's whole life's work be reviewed) is not a determining factor in the case for over-activity and an apparently increased power for work may be as much due to an abnormal state as the opposite condition. Reaction-time experiments upon which so much stress has been laid give us no real information as to the ultimate benefit to be derived from the use of alcohol which in certain quantities temporarily slows or hinders the output of energy, but whether this is good or bad for the individual must be determined by experience alone. I can remember a food faddist who tried to live almost entirely on nuts, boasting that he could walk 40 miles without undue fatigue, but he died young after an illness due to the effects of this régime and no doubt his extreme energy was due to an altogether abnormal physiological condition.

In a recent work under similar auspices, entitled "Alcohol and the Human Body," it is never made clear to the reader whether the use or the abuse of alcohol is under discussion; it is to be hoped that in this investigation they will at least not confound the man "saturated with alcohol" with the temperate user of the same.

I am, Sirs, yours faithfully,

Old Burlington-street, W., Oct. 13th, 1907. A. W. FULLER.

MALARIA IN ANCIENT GREECE AND ROME.

To the Editors of THE LANCET.

SIRS,—The little book which has just appeared on the above subject is necessarily limited in scope, as its true object is to show how malaria affects character and sometimes even influences the destiny of nations. But there are a few other points which are, I think, worthy of attention at the hands of medical men. A modern physician, in diagnosing a case of malaria, relies upon his thermometer, his microscope, and the action of quinine. The ancient doctor used perforce his eyes and his fingers, which accordingly became so sensitive that symptoms were noticed which seem to have escaped modern observers. A study of these symptoms might throw light upon some problems of tropical and sub-tropical disease, for a physician like Galen had the accumulated experience of centuries to help him in forming his conclusions.

A large portion, perhaps some hundreds of pages, of the ancient medical writers describe fevers having symptoms suggestive now of typhoid, now of malaria. Of these fevers some may be Malta fever, many are doubtless remittent malaria, but most appear to be cases of typhoid in patients previously infected with the malaria parasite. Instances of this must have been extremely common in highly malarious districts like parts of ancient Greece and Italy. Further study of the Hippocratic treatises, which of course imply much experience previous to Hippocrates, convinces me that the Greeks of the East were familiar with malaria long before it became endemic in Attica. Will anyone try to discover whether malaria influenced the history of the Assyrians and the Persians?

I am, Sirs, yours faithfully,

Cambridge, Oct. 5th, 1907. W. H. S. JONES.

MEDICAL EXAMINERS TO INSURANCE COMPANIES.

To the Editors of THE LANCET.

SIRS,—Complaints still continue to reach us from medical men who have been induced to take out policies in insurance companies by promises of appointments as district medical examiners to the companies. The fees they are led to expect do not accrue. Will you, therefore, kindly allow me through your columns to warn medical practitioners against all insurance companies which offer the position of district medical examiner in return for a policy?

I am, Sirs, yours faithfully,

HUGH WOODS,
General Secretary, London and Counties Medical Protection Society, Limited.

Craven-street, Strand, W.C.

MOTOR DRIVER'S PALSY.

To the Editors of THE LANCET.

SIRS,—I was recently consulted by a patient about what appears to be a new form of occupation or craft palsy due to driving a motor car. The patient's complaint was that on waking in the morning his left hand was firmly closed. He could extend the first two fingers with some difficulty but the last two had to be rubbed and forcibly extended before the spasm was overcome. There seems to be some discomfort at all times not amounting to pain. The only explanation which is forthcoming is that he has driven his car himself for the past year or two, and on driving with him I noticed that he maintained a constant grip with his left hand, all the levers being operated by the right. I have not come across this condition before, but perhaps some of your readers may have seen it and may be able from experience to say whether there is any cure for it short of giving up driving. It is conceivable that, just as occurs in writer's palsy, the voluntary control of the muscles might be abrogated without warning, the consequence of which might be a serious accident.—I am, Sirs, yours faithfully,

Putney, Oct. 12th, 1907. DONALD F. SHEARER.

A DISCLAIMER.

To the Editors of THE LANCET.

SIRS,—I wrote to you yesterday that through no fault of mine a sensational account of a lecture by me has appeared in the general press. I see to-day extracts from it put together as if there had been an interview. I cannot describe how profoundly sorry I am that this discreditable sensation has occurred and wish to tender my humblest apologies through your medium to all members of my profession. I may hold singular individual views but I have no desire to ventilate medical matters through the lay press.

I am, Sirs, yours respectfully,

Welbeck-street, W., Oct. 10th, 1907. BERNARD HOLLANDER.

THE FEES OF CONSULTANTS.

To the Editors of THE LANCET.

SIRS,—With regard to "Sigma's" letter in THE LANCET of Oct. 12th, why call in a "specialist" to remove a simple cystic mammary tumour? Why not do it himself, with a brother general practitioner to give the anæsthetic, or, if necessary, perform the operation, and thus pocket the fee himself or share it with his colleague? I think there is far too much surgical work neglected and sent elsewhere by the average general practitioner. Personally I have this week performed three operations in the midst of a busy practice, each of which had it been done by a specialist would have cost the patient at least 20 guineas. I was content with 15 for the lot. Surely five years' study, a little common sense, and a steady hand should be enough to remove a simple nævus or mammary cyst. Let the general practitioner show his skill and do more surgery and not send every case to the specialist. With regard to a specialist's opinion that is quite another matter, and with "Sigma" I was surprised when last week I took a patient to see a Harley-street surgeon who only took a fee of 2 guineas after spending *two* hours diagnosing the case, an obscure bladder case.

I am, Sirs, yours faithfully,

Oct. 14th, 1907. GENERAL PRACTITIONER FELLOW.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Oct. 12th your correspondent "Sigma" points out the absurd disproportion that exists in the matter of remuneration to physicians on the one hand and surgeons on the other.

Undoubtedly for the purposes of fee-getting the very mention of "surgical operation" is nowaday a thing to conjure with. The man in the street is at the very sound of that word "operation" already impressed. A surgical operation is to be performed and that is enough. The fact will not improbably be considered worthy of a paragraph in the local newspapers and details of the proposed performance will be freely supplied in advance by the local gossips. The affair has by this time become a matter of life and death, and surely after so much has been said and done the price must be thankfully paid, be the amount what it may.

Some surgeons seem to have been by no means slow in taking advantage of this unreasoning public attitude. In provincial towns, where the local hospital surgeons are at the same time in their private practice physicians and perhaps also specialists, one of these multifarious practitioners when acting as physician will pay a lengthy visit, in the consideration of some difficult and obscure case, for a fee of 5*s.* or 7*s.* If this same practitioner were to enter the same house in his capacity as operating surgeon, no matter how trivial the operation, the fee demanded will be not 5*s.* or 7*s.*, but likely enough as many, or even more, guineas. An operation has been performed and in the estimation of the man in the street it is the use of the instrument, the shedding of some blood, and the infliction perhaps of some pain that have exalted the service rendered. In which capacity the higher order of attainment is in reality called into requisition is sufficiently clear only to the initiated.

The present state of things needs radical readjustment, not only in this but in other directions. And what, for instance, can be thought when a hospital board appoints a practitioner in charge of a special department without any reference whatever to special experience or qualification, and seemingly looks upon such a post in the light of a grocer's bonus to be given away with the proverbial pound of tea.

I am, Sirs, yours faithfully,

Oct. 14th, 1907. G.P.

UNIVERSITY OF OXFORD.—In a congregation held on Oct. 10th the degree of D.M. was conferred on C. U. Aitchison, M.A., B.M., Balliol College.—The examination in Preventive Medicine (D.P.H.) for 1907 will commence on Tuesday, Nov. 19th. Names must be received not later than 10.30 A.M. on Tuesday, Oct. 29th, by the Assistant Registrar (Old Clarendon Building), from whom full particulars may be obtained.—The Rolleston Memorial prize, which is of the value of about £60, will be awarded in 1908 for original research in any subject comprised under the following heads: Animal and Vegetable Morphology, Physiology and Pathology, and Anthropology. The dissertations must be sent in to the Registrar before 6 P.M. on Tuesday, March 31st, 1908. The conditions of candidature are published in the *University Gazette* of Oct. 11th, p. 34.

FOURTEENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE WARMING AND VENTILATION OF THE REICHSTAG.

THE Congress had not sat many hours before numerous complaints were made in regard to the heat and bad atmosphere of the various rooms where the sections met. This seemed extraordinary, for the Reichstag was built so recently that it was most improbable that the question of ventilation should have been neglected. Consequently I started forth to investigate the matter. After a little research I discovered the right office and was very courteously received and shown the plans, the system was explained to me, and finally I was taken to the basement of the building to see the installations. Here a vast space is given up to ventilation and to the treatment of the air before it is admitted into the Houses of Parliament. The intakes are from the west front and air is brought down from the top of the two towers on either side of the building and also from the centre, but this latter intake is on the ground level. Before it penetrates the great hall where this fresh outside air is received it must pass through an air filter. This filter consists of a large wall made of layers of felt, packed one against the other, sufficiently tight to extract dust and dirt from the air as it passes between. Thus the air is cleaned by this contact with the felt. The next process is to warm the air, and for this purpose there are a countless number of steam coils. When the air has been heated to about 12° C. it is made to travel over the surface and between troughs half full of water placed over each other like rows of shelves. This causes some of the water to evaporate and thus slightly moistens the air. In a further hall, and after this addition of moisture, the air is heated to 20·6° C. To draw the air in, to make it travel through the large chambers or halls, along passages and corridors, and finally up various shafts and into different parts of the building, very powerful rotary fans are required. Near these large fans the air travels at the rate of from three to four metres per second but at a little distance this velocity falls to one metre per second. By the time the air reaches the House itself it does not, as a rule, move at a greater rate than 20 centimetres per second—that is, about two feet in three seconds. But if there should be a very full house the fans can be made to revolve more rapidly and double the amount of air is supplied. The maximum set down is 40 centimetres per second, though the existing machinery would give air at the rate of 50 centimetres per second. However, 40 centimetres is considered the maximum and even at that rate no draught whatsoever is felt and the air of the whole of the great assembly hall, where the Imperial Parliament sits, can be completely renewed six or seven times in the course of an hour without any air current being felt. There are, of course, great exhaust shafts which draw off the air and it is all conveyed to the two eastern towers which serve the purpose of air outlets.

A curious feature of the system is that the generator and power station are not in the Reichstag but in another building to the east where the electricity and power for the presidential official residence and other administration buildings are likewise supplied. Thus, there are no furnace and no rumbling engine in the actual Houses of Parliament. Every room, every part of the huge building, is scientifically warmed and ventilated. There are hot-water coils under the windows and five different systems of conveying the heat. The water warmed on the premises is heated with gas, for, as already mentioned, there is no furnace in the Parliament buildings. The air inlets vary according to the room and there are corresponding outlets. As a rule, in the smaller rooms there are apertures in the wall communicating with shafts by which hot air is admitted and there are others to draw the vitiated air away. Then there are recording thermometers which correspond by electric wire with a central department in the basement. Here the officers in charge can tell what is the temperature in any part of the building and they can turn on more or less heat according to the requirements. They can also entirely stop the warming and ventilating of any portion of the building that happens not to be occupied. To be able from one centre to control the whole premises, to determine how much air shall be pumped in a given room, to what degree it shall be heated and at what

rate the air shall be drawn out, necessitates the employment of a considerable amount of power. Air is not heavy, it can be moved along easily, still it requires some power, and in the Reichstag the dynamos to set numerous ventilating fans in motion develop all told no less than 76 horse-power.

In the face of such facts it seems extraordinary that the members of the Congress should have suffered so much from want of air and of ventilation. Of course, if the Reichstag had been sitting the Congress could not have met in these Houses of Parliament. On the other hand, it was just because the Reichstag was not sitting that the opportunity had been seized to clean, to alter, and to repair the whole system of ventilation. Consequently the building was left without any warming or any ventilation whatsoever. As it happened to be exceptionally fine weather with brilliant sunshine every day of the week during which the congress sat the need of warming was not felt. But the want of ventilation was acutely experienced, especially in Section I. and other very crowded sections. This, of course, is not in the least surprising considering that the ventilators were closed or in any case were not in working order, that all the machinery was at a standstill, and that not a single ventilating fan was in motion. Had this occurred to any other congress the circumstance might have been overlooked, but of all people in the world those who are the most interested in ventilation, who best appreciate its importance, and who are technically competent to judge of its efficacy, are precisely the teachers of hygiene and the promoters of sanitary reform. Far better than the members of the Reichstag would they have understood the very great work that has been done to provide warmth and pure air throughout this building. Indeed, as it is one of the largest and most recently constructed buildings in Europe it would have been most appropriate if one of the lectures delivered in the plenary meeting of the congress had consisted of an explanation of the methods employed to ventilate the Reichstag. Ventilation is one of the most urgent problems of practical hygiene and here was an unparalleled opportunity for an object-lesson. The fact also that hygienists, of all others, were left without ventilation infers that they are mere theorists rather than practical reformers and this can scarcely be considered complimentary. However, I was pleased to have been able to discover that the Reichstag can be ventilated and now I can bear witness to this fact, though many members who were half suffocated at the section meetings will have difficulty in believing my testimony.

THE SECTIONS.

Without pretending for one moment to give anything like a complete summary of the work and papers submitted to the different sections, a few more of the practical points raised may be mentioned. The penalty of large congresses is that many admirable things done and said pass unobserved in the crowd of speakers and questions. For instance, I have said but little about Section III., though it was devoted to the all-important problem of school hygiene and the rearing of infants. Official reports and documents, medical evidence, and statistics were brought forward to prove the universally recognised fact that mothers should suckle their own children and, what was more to the point, some details were given as to what various Governments and administrations had done to encourage this practice. In Germany, for instance, sick allowance is continued for at least two months after childbirth. At Leipsic a general official tutelage has been created to watch over illegitimate children and it was urged that the example given by this town should be followed in other places.

Infant Mortality.

Dr. DIETRICH (Berlin) stated that infant mortality represented one-third of the total mortality and urged that the most minute investigations should be made as to all the circumstances so as to establish what were the principal causes of such mortality. Ignorance and injudicious feeding were to be met by State efforts to instruct mothers and in this the vaccination officers might help.

Dr. BRENNECKE (Magdeburg) and Frau ELSBETH KRUKENBERG (Krueznach) especially insisted on the point that to secure more intelligent assistance the social position of midwives should be raised and a better class of women induced to qualify as midwives. Professor H. FRITSCH (Bonn) maintained that midwives should act as general instructors in hygiene to the families that required their services.

Medical Inspection of Schools.

The medical control or inspection of schools was treated at length and Dr. AXEL JOHANNESSEN described what was done in this respect by the Scandinavian countries. The school medical officers examine the children but do not attend to them when sick. He thought it a great advantage to unite the poor relief service with that of the medical supervision of schools as the information gathered in the one field of action supplemented that found in the other.

Over-work in Schools.

In regard to over-pressure Dr. A. CZERNY (Breslau) in his report expressed the conviction that ill-health attributed to overwork was often really due to insufficient ventilation of schoolrooms. Dr. ALBERT MATHIEU (Paris) complained that from the infant school onwards children were compelled to remain still and that this unnatural immobility had a serious debilitating effect. On the other hand, the reporters who dealt with the question of holidays were satisfied with the present general arrangements, agreeing that the longest vacation should be in the hottest summer months.

Dr. BURGERSTEIN (Vienna), who spoke on this subject, recommended that the school year should commence at the beginning of September and should continue for about three and a half months, with a fortnight's holiday at Christmas, followed by three months' school with a fortnight's holiday at the end of March, school again for three months, and a long holiday in July and August.

Over-work in Factories and Workshops.

While Section III. discussed over-pressure in schools Section IV. dealt with the same problem as applied to working men and women in factories and mills. Dr. Z. TREVES (Turin) asked for more systematic examination by medical experts of the effects of various sorts of work. Dr. ROTH (Potsdam) complained of bad air, over-work of some muscles and idleness of others, and, above all, of the fact that in many trades the workers had each to do a similar kind of work requiring the same amount of exertion, though the workers differed from one another in strength. A more thoughtful allotment of tasks based on a better knowledge of the physical and mental capacity of each worker would prevent much illness and be productive of better work. Dr. A. IMBERT (Montpellier) defined over-work. If after a normal night's rest the workman felt fatigued on returning to his task then he was over-working himself. If the normal growth and development of a youth were checked then the cause was probably over-work. When the congress met at Brussels in 1903 it was decided that more scientific investigations should be made so as to define what constitutes over-pressure or excess of work. This resolution does not, however, seem to have been carried out and therefore the section again expressed its desire that over-work should be studied by laboratory experiments. For instance, at the Brussels congress it had been suggested that kinematograph records should be taken of the way in which certain manual tasks were accomplished when the labourer was fresh and when he was fatigued.

The Prevention of Accidents.

A large number of papers were read on the prevention of accidents, the laws of different countries dealing with this matter, and the exhibitions showing methods for reducing the risks incured in various industries. The handling of poisonous substances such as lead in painting and glazing or mercury in felt-making was discussed. Dr. BORGMANN (Düsseldorf), as one of the reporters on these questions, insisted that inspectors must be highly educated in regard to hygiene and the technique of the trades which they have to supervise. They must first attend the best technical schools and acquire a sound knowledge of the natural sciences. And yet, with all this, practice, he said, was as essential as theoretical knowledge. Industrial hygiene would progress more rapidly if the law established the compulsory notification of all cases of poisoning arising from the work done. Needless to say, those who were intrusted with the medical supervision of the workers must occupy a position that would enable them to act with the strictest impartiality.

Free Baths and Personal Cleanliness.

In Section IV. Dr. SIMON BARUCH (New York) submitted a report urging that municipalities should supply gratuitously warm baths and soap as they do parks and gardens. He argued that "the money required for supplying this crying need of the poor and working people is trifling when

compared to amounts expended for their other not more imperative sanitary needs." This suggestion has been carried out at Chicago, New York, Buffalo, and elsewhere. Dr. A. HERZBERG and Dr. O. LASSAR (Berlin) both supported this demand. Baths also, they maintained, should form part of the indispensable installations of all public schools and naturally there must be baths in all the barracks. There should be baths in every factory and mill and especially in all unwholesome industries.

Electricity and Accidents.

The ever-increasing application of electricity to numerous industries has created a new branch in the study of accidents and their prevention. Several reports were submitted on this subject, including those by Dr. S. JELLINEK (Vienna) and Dr. W. KÜBLER (Dresden), while Dr. LOUISE ROBINOVITCH (New York) had a paper on restoring electrocuted patients. Dr. Kübler did not think that electric power was more dangerous than any other power but attributed the numerous accidents which have occurred to "the disgraceful lack of understanding of the simplest electrical operations in the greater part of the population, including the educated classes."

Home Work and Sanitation.

The danger of home work to the workers themselves and to the community at large is all the more obvious as this comprises a large part of the "sweated" industries. Dr. JUNGFER, inspector of industry, reported on the subject and drew attention to the great improvements brought about by the German legislation in factories and workshops. There were fewer accidents and a marked improvement had taken place in the health of the workers. On the other hand, hardly any improvement had been effected in the condition of the home workers; indeed, with the rise in the rents charged in the great centres the sanitary conditions among the home workers were worse than they used to be. This could only be altered by legislation. Home workers must be inspected as if they worked in factories and brought under the compulsory system of insurance against accident, sickness, &c. The limitation of the hours of labour should apply equally to home workers. Dr. C. DOSE (Dresden), while acknowledging the great benefits that would result in the extension to home workers of the law on compulsory insurance, held that such work required other and special measures. The home worker not only compromises his own health but also that of the persons who purchase the articles which he produces. Dr. Dose urged that certain kinds of work should not be given out at all unless the home where it is to be done has been inspected and found suitable.

Herr BIELEFELDT, director of the Workers' National Insurance of the Hanseatic Cities, reported that by sanatoriums and hospitals and other measures taken the working capacity of invalided or injured workmen was restored for an average of five years each. The amount in wages earned after recovery and thus added to the family income of the working class during the last ten years was estimated for the German Empire at £23,550,000. Then out of the reserves of the insurance funds £8,600,000 had been invested in the construction of healthy dwellings for workmen. With healthier homes and less poverty the sanitary evils arising out of home work would become a little less urgent.

Disinfection.

In Section V. a good deal was said concerning the control of disinfection and tests to prove its efficacy. Dr. F. SCHMID, chief of the Swiss Sanitary Services, insisted that all apparatus used, stoves, &c., should be tested by experts from time to time and that public servants alone should be intrusted with the responsibility of disinfecting. Dr. E. BONJEAN, chief of the laboratory at the French Ministry of the Interior, agreed that disinfection must be controlled by properly qualified and independent public officials. He further maintained that the efficacy of the methods employed should be occasionally submitted to bacteriological tests.

Insurance against Disease.

Dr. MUGDAN (Berlin) reported to Section V. that the insurance against sickness had resulted from 1884 to 1904 in an expenditure on account of sickness of £111,462,948 Medical attendants had in that time been paid £25,740,196 and £15,158,057 were spent in the purchase of medicaments. The treatment of the insured in hospitals and sanatoriums had cost £15,158,057. Assistance given to lying-in women came to a total of £1,827,133 and the funeral allowances amounted to £4,188,191. This was the financial cause of much of the improvement in the general health of the German people.

The prevention of the spread of tuberculosis, of enteric fever, of plague and cholera, were all discussed in Section V., but I was not able to be present at any of these debates, and in such printed reports as have as yet been issued I fail to note any very original or new suggestion.

Before concluding these very brief sketches of the work of the sections I will describe one or two more discussions that took place in Section VI.A.

The Separate System of Drainage.

In this section the three reporters, Mr. H. ALFRED ROECHLING, civil engineer (London), Herr HOFER (Vienna), and Dr. CARL GÜNTHER (Berlin), all agreed that the separate system of drainage had now proved its usefulness and applicability in many cases. In excluding the rain-water from the smaller of the two sewers it was necessary that this smaller sewer should have sufficient fall to be self-cleansing. With the separate system the expense of treating the sewage was often considerably reduced. Then it was easier to prevent the smaller sewer leaking, while if the larger sewer does allow some of its contents to escape into the subsoil this is not so dangerous when it only receives the rain-water. In the earlier congresses there used to be strong opposition to the separate system. Of late, however, this has gradually died down; and now, without going to the other extreme and advocating the application of the separate system in all circumstances, it is recognised as having rendered great service in many cases.

The Smoke Nuisance.

One very important question that does not receive the attention which it deserves was debated in this section. A good deal has been said about the smoke nuisance in so far as it affects the streets and outside atmosphere of large towns; but there is also the escape of the products of combustion within the dwelling themselves. This is a more insidious evil; indeed, many persons have not yet realised that it exists. Unfortunately it is not only a real danger but a danger that with modern jerry buildings is very much on the increase. Dr. ASCHER (Königsberg) presented a report on the evil of smoke. He pointed out the greater prevalence of lung diseases in smoky towns than in the open country. He also gave figures showing that there was a greater fatality, especially among children, due to diseases of the respiratory organs in the coal and iron districts than where, for instance, textile industries are established, for they produce less smoke. Tuberculosis is more rapidly fatal in districts where there is a large quantity of smoke. These observations were confirmed by experiments with rabbits. When these animals were made to breathe for a few weeks moderate quantities of smoke and soot they readily contracted inflammation of the lungs or pulmonary tuberculosis when exposed to the specific microbes of these diseases. The control rabbits which had not lived in a smoky atmosphere escaped pneumonia altogether and tuberculosis developed with much less rapidity. The breathing of sulphuric acid, so prevalent in smoke, also accelerated tuberculosis. Similar experiments with guinea-pigs gave the same results. Also, smoke by intensifying the opaqueness of mist and fog prevents the purifying action of the rays of sunlight. Dr. Ascher, when speaking to the section, urged that the question had not been sufficiently studied. Municipal councils throughout the civilised world should help in reducing the cost of gas, so that it might be more extensively employed instead of smoke-producing coal, and endeavour to collect facts showing the effect of smoke on men, animals, and vegetation. A proposition was carried to this effect and an amendment adding to gas the words "and electricity."

The Danger of Leaking Chimneys.

M. AUGUSTIN REY, architect (Paris), insisted that one must not consider merely the out-of-doors effects of smoke. From private dwellings there is naturally much more smoke produced in winter. Generally the imperfect construction of the chimneys causes this smoke and its accompanying waste of fuel. But by far the worst effect was the contamination of the indoor atmosphere. This was due to leaking chimneys. Thus in a street two houses touch each other and the chimneys would often be back to back. But there might be an inequality in the level of these houses, the walls might move slightly and the subsidence of the one house might be greater than that of the other, hence a wrenching apart and the

formation of cracks and leakage in the walls of the chimneys. By this means the invisible products of combustion entered the dwelling-rooms and filtered through from house to house. There was thus a much greater proportion of toxic gas indoors than out of doors. It was necessary to build chimneys differently. The central part of the chimney must be able to resist expansion. But this would increase the cost and the constant piling up of cost was fatal to the cause of hygiene. M. Rey thought the most practical thing to do was to change the system of warming. At present of houses where examinations had been made 40 per cent. were found to possess leaking and dangerous chimneys. The Americans had shown us a way out of the difficulty; they contented themselves with one fire and one chimney. There was no reason why one fire should not suffice for an entire street. The rooms would be warmed by hot water or steam coils and hundreds of smoking and leaking chimneys could be abolished and replaced by one smoke-consuming and properly controlled furnace. Societies for central warming might be formed.

Dr. F. RENK (Dresden) presented tables setting forth the periods of the year and the hours of the day when the maximum and minimum amount of smoke was produced.

Several speakers agreed that the actual processes for consuming smoke needed great improvements but they did not seem capable of making any clear proposal. There was a demand for facts and figures but a lack of initiative. A motion, however, was proposed and it was not only carried but a translation in English was provided. This translation, it is true, was in German English and sounds peculiar, but nevertheless it is possible to gather what is meant and I will quote it literally as an illustration of the difficulties of holding international congresses:—

> The development of soot and smoke in the great towns taking the first place must be more regarded in the present time as in the past. It must be more inquired the influence of smoke and soot on the human health, the life of the plant, the destruction of public buildings, and the bad conditions of the atmosphere (fog absorption of light). It is the duty of medical administration to examine the present conditions of smoke and soot in the great industrious places and the private houses. One of the principal questions of the municipal administration is to keep the air so clean as possible, the best through a moderate price of gas. It is the duty also of technical science to assist this work in the same manner as for the keeping clean of the ground and water. For the better inquiring of this question and for practical work an international proceeding is necessary.

Everyone who reads the above motion will be delighted to hear that it was carried unanimously and the last sentence gives promise of further international meetings and debates on the subject.

After the corruption of the air by smoke, corruption by the extra clouds of dust due to motor driving naturally came up for discussion, and Dr. GUGLIELMINETTI (Monte Carlo) described his process of tarring the roads. It hardens the macadam so that it becomes more like asphalt. This renders macadam more durable and helps to compensate for the cost of tarring, which amounts to close on 1½*d.* the square metre.

Sanitation has by efficient drainage sought to check the contamination of the subsoil. By innumerable processes sanitary reformers propose to protect and assure the purity of water. And now the purity of air is more closely studied. Smoke, leaking chimneys, and motor-car dust are evils of modern life. It is the chimney of the jerry-built house that leaks and lets poisonous products of combustion into living-rooms. It is the chimneys of the great modern factories that contaminate the outside atmosphere. It is the mad whirl of modern traffic that raises such a dust in the streets that the grit spoils the lenses of the telescopes at the observatories while it must tend to the increase of pulmonary and throat diseases. These great international congresses of hygiene must therefore make their voices heard so as to put a check to such health-destroying abuses. It is regrettable that what was done in Section VI.A in regard to the dangers created by the new conditions of modern industrial and social developments was not more widely desseminated. It is especially the mission of such congresses to sound a warning as to the effects of modern processes and the new methods of work and life. As fast as one danger is overcome another springs forward in its place. International congresses of hygiene are the principal opportunities which sanitary reformers possess of making the world aware that further requirements have arisen. The health of the community may be effectively shielded only in due proportion to the care, skill, courage, and energy displayed in coping with the new dangers created by the conditions of modern life.

THE CHOLERA EPIDEMIC IN RUSSIA.

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

DURING the past two months an epidemic of cholera has been prevailing in certain parts of European Russia. Though the outbreak is not of such severity as to be in any way alarming it is nevertheless sufficiently widespread to cause some disquietude to those responsible for the public health in other countries. Few details of this outbreak have hitherto been published in the English press. The following history of the epidemic has been compiled from information received by the Constantinople Board of Health from official sources and from the Russian medical papers and may therefore be regarded as authentic. It may be stated, by way of premiss, that nothing is known as to the origin of the infection. In past epidemics the source of the disease has more often than not been traced to Moslem pilgrims returning from the Hedjaz; but in the present case there is nothing to prove, or even to justify a suspicion, that the disease was brought to Europe by returning Hajjis. Last year's pilgrimage came to an end in the middle of the winter; the bulk of the pilgrims returned in the months of February, March, and April, though possibly a few belated pilgrims would not reach their distant homes in Asiatic Russia till later. No case of cholera or suspected cholera was seen among the pilgrims during their stay in the Hedjaz, or during their return. At the Tor Lazaret, and at that of Camaran, some vibrios resembling in some respects that of cholera were isolated from the dejecta of a few pilgrims, as in past years; but even if it be assumed that these were true cholera vibrios in a latent or modified form, nothing has as yet been brought forward to connect them in any way with the first cases of the declared disease in Russia. It seems necessary therefore to suppose that the latter were due either to a revival of the epidemic which prevailed in Russia two years ago, or to fresh importation of infection by way of Russian Central Asia. Nothing has yet been published to show that the disease did in fact travel by that route, so that the only logical attitude to adopt at present as to the origin of the outbreak is one of suspended judgment, until further detailed information is available.

The earliest avowed cases of the disease in Russia occurred in Samara at the beginning of July (Old Style); but it is noteworthy that as early as June 20th (Old Style) a newspaper published in Astrakhan, the *Astrakhanski Listak*, announced that a large number of cases of gastro-intestinal trouble, "accompanied with cramps," were then occurring in that town, and it is difficult not to assume some connexion between these cases and the cholera epidemic which declared itself later. It is also remarkable that, according to the *Vratch* of July 14th (27th), "cholerine" was raging in a place called Kalvaria at the end of June; between June 27th and July 3rd (Old Style), it was stated, 1300 men of the 112th Ural Regiment were down with it and many of the general population were also attacked. The position of this town is not given and the only Kalvaria marked on the map is a place in the Polish province of Suwalki.

In Samara on July 3rd (this and all the following dates are according to the Old Style when not otherwise stated) two persons were removed to the Government hospital, with suspicious symptoms; one of them died on the 4th and the other recovered. The nurse in charge of the pavilion in which these patients had been isolated fell ill on the 8th and died, and on the 9th a male attendant was also attacked and died on the same day. Between July 3rd and 22nd 35 cases of cholera and ten deaths had been registered in Samara. The Government declared the Samara government "infected" and those of Astrakhan, Saratof, Simbirsk, Ufa, Kazan, and Nijni-Novgorod "threatened" with cholera. The latter convenient phrase has been adopted by the Russian health authorities in similar circumstances for some time past; it involves the immediate adoption in the regions thus declared of certain preliminary precautions, such as the medical inspection of passengers at all railway stations, the distribution of boiled water to the people, and similar measures.

All the early cases of the disease in Samara are said to have occurred among local residents and mostly among those of the labouring classes. The following was the further course of the outbreak there: 12 cases on July 23rd; eight

on the 24th; 16 on the 25th; 11 on the 26th; 16 on the 27th; four on the 28th; 12 on the 29th; four on the 30th; and four on the 31st. On August 1st there were eight cases; then four on the 2nd; 10 on the 3rd; one on the 4th; one on the 5th; six on the 6th; four on the 7th; nine on the 8th; one on the 9th; four on the 10th; (11th, missing); ten on the 12th; eight on the 13th; (14th and 15th, missing); seven on the 16th; five on the 17th; seven on the 18th; four on the 19th; three on the 20th; three on the 21st; two on the 22nd; three on the 23rd; and five on the 24th (Sept. 6th). Since that date the returns received are imperfect and may be left for a later letter.

In the meantime the infection had spread to other parts of the Samara government. In the village of Melekez in the district (*uyezd*) of Stavropol nine cases and eight deaths were registered between July 24th and August 1st; by the 6th the totals here had reached 13 cases and ten deaths; by the 8th 16 cases and 13 deaths; on the 12th there were six cases and two deaths; on the 17–18th seven cases and two deaths; and on the 20th 17 deaths. It will be seen that the returns from here were very incomplete and the same is true for the other places about to be mentioned. In Stavropol one case occurred on August 6th; in Novaia Binaradka, a village near, there was a case about August 12th; in four villages of the Nikolaievsk district 12 cases and eight deaths occurred on or about the same date and seven cases with one death on the 13th. One case was reported from the Alexeief faubourg in the Samara district. On August 18th there were two cases and one death in the Novoüzensk district, on the 19th one case and one death, and on the 23rd six cases in the same district. In the village of Oterska, in the Buzuluk district, five cases and two deaths occurred early in August, and seven cases with four deaths between the 10th and 18th of that month. Down to August 21st the totals in the Samara government were returned at 344 cases, with 137 deaths.

From the Samara government the epidemic spread southwards and northwards by the valley of the Volga. Its southward course may be followed first. In Saratof three suspected cases were seen on August 8th. Here, as elsewhere, the returns are very imperfect. On the 17th there were two cases, one of which was removed from a Volga steamer; on the 19th there were eight cases; on the 20th, three with one death; on the 21st, the same figures; on the 22nd, five cases with one death; and on the 24th and 25th, 17 cases with three deaths. In Tsaritsyn a local dock labourer died from cholera on August 12th; on the 13th and 14th there were ten suspected cases here and the bodies of three persons, two of whom had apparently died from cholera, were removed from steamers coming from the Lower Volga; on the 15th there was one fatal case; on the 16th, 12 cases; on the 17th, 11 cases among local residents, with four deaths; on the 17th and 18th three suspected cases were removed from steamers; on the 19th there were 15 cases and four deaths and two cases among passengers at the railway station; on the 20th 14 cases and nine deaths; on the 21st 21 cases and eight deaths; and on the 23rd 15 cases and 16 deaths. In Kamyshin two suspected cases were observed on steamers and one or more cases were reported from the villages of Baranovka (Kamyshin *uyezd*), Novonikolsk, Dubovka, and Karavaika in the Tsaritsyn district, and in the town of Khvalynsk. In the whole government of Saratof down to August 21st the totals were returned at 157 cases and 60 deaths.

In Astrakhan, at the mouth of the Volga, a suspected case of cholera was seen on July 22nd, in the person of a peasant from Samara; the diagnosis was confirmed bacteriologically. The infection rapidly spread here; by the 1st of August there had been 25 cases with six deaths; by the 8th, 99 cases with 38 deaths; and by the 16th, 602 cases with 253 deaths. From the 18th to the 25th the daily returns were as follows: 62, 56, 53, 52, 34, 48, 44, and 54 cases, and 21, 38, 44, 46, 41, 29, 30, and 30 deaths. In the Arkhierei suburb, on the opposite shores of the river to Astrakhan, five cases with two deaths occurred on July 30th, 16 cases and six deaths on August 18th, and presumably an unrecorded number of both in the interval. In the Cossack stanitza of Ataman in the same neighbourhood 17 cases with eight deaths were reported on August 18th, and here again it may reasonably be supposed that other cases occurred both before and after that date, though they do not appear in the returns. Cholera prevailed widely in other parts of the Astrakhan government; the Astrakhan, Yenotaief, and Tsaref districts (*uyezds*) were all infected; by August 25th the totals in this government (apparently exclusive of the town of Astrakhan) had risen to 1504 cases and 747 deaths. Most of the early cases here occurred on boats on the Volga.

From Astrakhan the disease spread into the Caucasus. On August 1st two suspected cases were reported from Baku on August 6th (19th) another case was seen there; by the 13th there had been six cases; between the 9th and 15th (the returns here seem to overlap) 12 cases and one death were reported. Several other cases were observed at Baku on ships from Astrakhan; thus on August 12th there was one on a schooner; on the 16th one on a steamer, followed by a second one on the same steamer on the next day, and on the 19th two cases on another steamer. On August 19th a case was observed on a steamer crossing the Caspian from Astrakhan to Krasnovodsk, and presumably the infection had actually reached both the Krasnovodsk and Mangishliak districts of Transcaspia before that date, as both were officially declared "infected" on August 10th; no figures have, however, been published from either. The distant Siberian province of Akmolinsk also became infected, one fatal case occurring there before August 21st. Two cases were reported from Tiflis on August 14th, but it was afterwards denied that they were cholera cases. On August 31st two suspected cases and one death were reported from Elisavetpol in the extreme south of Transcaucasia. Cases were also reported from Novorossiisk on the Black Sea towards the end of August, but it has not been made clear whether they were truly cholera cases and also as to whether they occurred in the town itself or on the railway between there and Rostof. In Rostof itself there has been a sharp outbreak of the disease; 10 cases and seven deaths occurred there before Sept. 12th (25th), and between that date and Sept. 21st (Oct. 4th) there were 70 cases and 26 deaths in the town and an unrecorded number in the neighbourhood. The Don Cossack territory seems to have escaped with a single case, which occurred at the stanitza of Kotelnikovo on or about August 24th. Finally, single cases were reported from the Ekaterinoslav government before August 9th and in the Volkhansk district of the Kharkof government before August 4th.

In a northerly direction the epidemic passed from the Samara to the Simbirsk government. At the village of Solontze, in the Syzran district of this government, two cholera cases occurred before July 27th. On the 29th another case occurred on a raft arriving at the Syzran landing-stage and on the 30th another in the train at Balasheika station, between Syzran and Moscow. At Simbirsk itself four suspected cases occurred at the beginning of August, two of which were removed from a steamer coming from Astrakhan and the other two from a steamer from Nijni Novgorod. On August 10th a railway employee fell ill of the disease at the station of Batraki and died on the 12th. Other places in this government from which returns have been received are the villages of Petcherski, Yazykovo (Sengilei district), and Gorinko. The figures have not been high; between August 7th and 21st 44 cases were registered in the government, and from the 22nd to the 28th 21 cases and 13 deaths. In the Penza government one fatal case was reported on August 20th. In the Kazan government four cases occurred in the district of Tchistopol on August 7th; there was bacteriological proof that they were true cholera cases. On the 12th a case was removed at Mariinsk (Tcheboksary district) from a steamer from Nijni Novogorod. Several other cases occurred on Volga steamers in other parts of this government. On August 19th the zemstvo doctor died from the disease in the village of Pikhtourin (Kozmodemiansk district). The figures have, however, never been high from this government. In that of Perm they have been still lower; on the 11th and 12th of August two cases and two deaths occurred there; by the 21st the totals had reached eight cases and two deaths. In the Nijni Novgorod government the epidemic has been more severe on the other hand. Two cases of cholera occurred in the town of that name on August 13th and later the figures rose considerably; thus on August 23rd there were ten cases with two deaths; on the 24th six and one; and on the 25th and 26th 12 cases and ten deaths. Many cases were removed from steamers or other boats. Among infected places are Yurino (Vasilsursk district), the Balakhninsk district, and the towns of Gorbatof, Sormof, and Pavlof. The figures from all are imperfect; in the whole government 66 cases and 26 deaths were returned between August 7th and 21st and 109 cases with 49 deaths on the 25th and 26th of the month.

Cholera appears to have reached the Kostroma government

on August 15th, when one fatal case occurred in Vetluga, on the river of that name, a branch of the Volga. The case was removed from a steamer, and on the same day another case occurred on a steamer at Yurievetz, on the Volga itself. Between August 22nd and 28th eight fresh cases occurred in this government. A few cases have been reported from the Yaroslavl government; on July 29th a labourer arrived at Rybinsk on the Volga, by a sailing ship; he fell ill of cholera and died, and about the same time his mother also died from the disease; in both comma bacilli were found. Other cases occurred in Rybinsk, in Romanof-Borisogliebsk, and in Yaroslavl itself; in the whole government seven cases with three deaths were returned between August 22nd and 28th. A single case occurred in the Vladimir government before August 21st; about the same time a case was seen in the Tambof government, in an arrival from Tsaritsyn, and another in that of Kursk, in an arrival from Astrakhan; and on Sept. 3rd a suspected case died in Kasimof, in the Riazan government.

Finally, in Moscow, a single case occurred on August 18th; the patient was a fireman on the railway, who had arrived from Saratof; on the 24th the sister who had nursed him, in the second municipal hospital, died from the disease; both cases were confirmed bacteriologically. In St. Petersburg a suspected case was reported at the end of July, the patient being an izvoshtchik (or cab-driver), but the bacteriological evidence was negative; and this was also the case in a second suspected patient a little later. Two suspected cases were also seen in Riga at a date unnamed, and at Brest-Litofsk three suspected cases were reported on August 5th.

This completes the record of the outbreak in Russia, so far as the information hitherto published goes. Later information will probably fill in the many gaps now existing in the returns. But enough has been published to show that the infection is very widely spread, though apparently the case mortality is not high. Fortunately, the winter is approaching and it may be hoped that the infective material may die out during the cold months that are now drawing near. Otherwise there will be serious risk of a more severe epidemic in 1908.

Constantinople, Oct. 8th.

THE SIXTH INTERNATIONAL DERMATOLOGICAL CONGRESS.

(FROM A CORRESPONDENT.)

THE meetings of this Congress were held at the Academy of Medicine in New York from Sept. 9th to 14th under the presidency of Dr. J. C. WHITE (Boston), and the Congress proved a brilliant success. The proceedings began at 10 A.M. on the 9th, when an address of welcome was delivered by Surgeon-General RIXEY, representing President Roosevelt; other addresses followed by President REMSEN and Dr. J. D. BRYANT, representing respectively the Johns Hopkins University and the American Medical Association.

After the President's address at 12 o'clock the meeting adjourned until 3 P.M., when the real business of the Congress began. The subjects of the papers were excellent but so numerous and so long were the communications that curtailment became a necessity, the discussions upon them having to be shortened as well. It is impossible to refer to all the papers, but we have selected the following as representative of the work done in the United States. No doubt they will be reported in full in the official account of the proceedings

In the discussion on Lepra and its Treatment by Professor CAMPANA (Rome) stress was laid on the value of chaulmoogra oil and injections of strychnine.—Dr. PRINCE MORROW (New York) stated that some of his patients had remained free from a recurrence for eight or nine years.

Dr. L. D. BULKLEY'S (New York) paper on the Value of an Absolutely Vegetarian Diet in Psoriasis excited much interest, though it failed to prove convincing.

A paper was read by Dr. E. E. TYZZER (Boston) on the Pathology of the Brown-tail Moth Dermatitis. It appears that the disease was first noticed in 1897 in the suburbs of Boston, though the first introduction into the States is unknown. A lantern demonstration showed the "nettling hairs." These develop on the caterpillars and experimentation has proved that they possess a toxic principle which is responsible for the dermatitis.

A paper was read by Dr. G. HOWARD FOX (New York) on Observations in Skin Diseases in the Negro. This very excellent contribution had to be cut short owing to the want of time, or otherwise it would have given rise to an interesting discussion, as the Southern States were well represented by men of experience.

A paper upon Small-pox was read by Professor COUNCILMAN (Boston). The parasite of this disease, he said, is found in the specific lesions of the skin, and the same organism up to a certain period of development is found in vaccinia. It is believed that there are probably two cycles of development: (1) an imperfect cycle probably analogous to the asexual cycle of the coccidia which is common to both vaccinia and small-pox; and (2) a complete cycle representing a further development of the vaccinia cycle which is only found in small-pox. The monkey inoculated with the contents of the small-pox pustules develops small-pox, whilst inoculations of the calf or rabbit with the same virus produces vaccinia.

The discussion which followed the reading of a paper on the Opsonic Method in Skin Diseases by Dr. ARTHUR WHITFIELD (London) elicited the general opinion that this method was at the present time beyond the range of practical medicine.

In a paper on Systemic Blastomycosis by Dr. F. H. MONTGOMERY and Dr. O. S. ORMSBY (Chicago) the symptomatology, pathology, geographical distribution, and treatment were discussed. The remedies recommended were iodide of potassium, x rays, and surgical measures. Some beautiful cultivations of the organism from inoculation in guinea-pigs were shown by Dr. Ormsby.

A paper on Dermatitis Coccidioides by Dr. A. RAVOGLI (Cincinnati) followed. This disease although related to blastomycetic dermatitis was somewhat different. The parasite taken directly from the ulcerated surfaces had a long thread of mycelium, but when cultivated in glycerine agar and on blood serum showed only round bodies with scarcely any mycelium. The result of the treatment was also different.

A report by Dr. W. A. PUSEY (Chicago) of a series of epitheliomata treated more than three years ago with x rays and a report of 800 dermatological cases treated with x ray and high frequency currents at the Mount Sinai Hospital in Lustgarten's clinic comprised cases of epitheliomata, acne vulgaris, acne rosacea, lichen, psoriasis, lupus erythematosus, lupus vulgaris, warts and nævi, keloid, folliculitis decalvans, pruritus, mycosis fungoides, sycosis, favus, tinea tonsurans, hypertrichosis, and hyperidrosis. The results of the treatment agree in the main with those obtained in this country.

In a demonstration by Dr. C. T. DADE (New York) on the use of liquid air in dermatology, cases of nævi, rodent ulcer, and lupus erythematosus were shown which had been treated by the operator and the results were excellent. The liquid air was also applied to several patients in the presence of the members and the pain appeared to be quite bearable, though it was stated that it would become somewhat severe for a short time two hours afterwards. The liquid air was supplied in Dewar's bulbs and the application was made with a piece of wood, round the end of which a little wool had been wound. This was pressed steadily on the disease—nævi and ulcers—for a few seconds and when removed the part appeared to be frozen. No dressings were required. Two or three applications were necessary at intervals of a fortnight. It was stated by the operator that it was of no value in lupus vulgaris.

Radiographs of Syphilis of the Long Bones by Dr. M. W. WARE (New York) showed that the differentiation of syphilitic dactylitis from tuberculous dactylitis was very marked.

Dr. ABNER POST (Boston) also showed similar radiographs which confirmed Dr. Ware.

Dr. J. C. JOHNSTON (New York) read a paper on the Failure in Proteid Metabolism and its Relation to the Production of Certain Types of Dermatitis. The object of the paper was to show that a definite relationship was often observed between a disturbance of the normal ratios in such diseases as urticaria, erythema multiforme, eczema, psoriasis, dermatitis herpetiformis, prurigo, rosacea, and pruritus.

The subjects of other papers were the following: Epidermolysis Bullosa, Comedo Agminata; Multiple Rodent Ulcers of the Scalp with one on the right shoulder of the size of a saucer; Acne Scrofulosus, involving the Scalp, Head, and Back; Psoriasis on the Flexor Surface of the Arms, Pigmented Patches of a Venous Hue on the Legs (Sarcoid) undergoing Atrophy during Treatment with x Rays; Leucoplakia of the Cheeks in a Negro; Darier's Disease; Fordyce's Disease;

Trichorrhexis Nodosa, Molluscum Fibrosum, Alopecia Areata preceded by Severe Headache; Favus of Nails, Xanthoma Tuberosum, Morphœa of Face; Nævus Pilosus occupying the "bathing drawers area" with Disseminated Patches on the Body; Lichen Annularis, Symmetrical Follicular Staphylococcic Affection of the Covered Skin, now more pronounced on the Buttocks and Thighs, of 14 Years' Duration; Vitiligo in a Negress—Adenoma Sebaceum; Syphilitic or Tuberculous Ulceration of the Nose, following Injury from Explosion of a Spirit Lamp; Scleroderma of the Feet and Legs followed by Atrophy; Hydro-cystoma, Scleroderma of the Face, Parts of Scalp, and Sclerodactyly; Argyria following the Ingestion of 100 Grains of Nitrate of Silver; Xanthelasma in a Child, most marked about the Neck, with Urticaria Pigmentosa of the Trunk; and Lichen Planus of the Hand, with Suppuration of Similar Lesions on the Forearms. Owing to the richness of material it was impossible to inspect and to discuss these cases in the time allowed.

On the upper floor of the building collections of pathological specimens, radiographs, photographs, water-colours, and wax models of disease were exhibited. Dr. G. G. Stopford Taylor (Liverpool) and Dr. R. W. MacKenna (Liverpool) were the only contributors from the United Kingdom.

The munificent hospitality shown by the American members of the Congress to their foreign brethren, and the attention bestowed upon the lady visitors by the ladies' committee, will never be forgotten by those who had the good fortune to attend. Free lunches were provided for the members in the Academy, so that it was unnecessary to leave the building; foreign members were invited to dinners and luncheons; a trip up the Hudson River and supper at Coney Island were organised on the Wednesday; and on the Friday evening about 200 members of the Congress sat down to dinner at the Waldorf Astoria Hotel. A more brilliantly decorated place of assembly it would be difficult to imagine. The lady visitors were taken to view the sights of New York City by members of the ladies' committee, and on the Saturday a vote of thanks to the organisation committee proposed by Dr. STOPFORD TAYLOR, and seconded in felicitous terms by Professor GAUCHER (Paris), brought the proceedings to an end.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Opening of Sandwell Hall.

Sandwell Hall, near West Bromwich, has been in use during the past six months for the reception and training of the mentally defective but the formal opening took place on Oct. 4th. This somewhat late official opening had, however, its advantages, for those who spoke at the opening ceremony were able to point out that even in the short time during which the Hall had been in use some of the children had been trained to perform creditable remunerative work. The Hall has been provided and equipped by private effort but its continuance must depend greatly on the support of the surrounding towns which will utilise the excellent means for the care and instruction of the feeble-minded which have been put at their disposal by the help of the Rev. H. N. Burden and Mrs. Hume Pinsent, to whom the thanks of the community are due. Good results must come, but they will not be wholly satisfactory, I fear, until the time comes when the feeble-minded can be legally detained. The Lord Mayor and the Bishop of Birmingham who spoke at the opening meeting clearly recognised this and if the Lord Mayor is justified in believing that it will not be long before the necessary powers will be granted the outlook becomes more promising.

The Orthopædic Hospital.

The report of the medical committee at the recent annual meeting of the subscribers to the Orthopædic Hospital showed apparently that during the past year there had been an increase of attendances and a decrease in new cases. This, however, was due to the fact that the returns of the previous year included renewals which did not appear in the past year's account. During the latter period 1310 new cases had been treated and there had been 532 operations. The returns also showed that there had been 318 in-patients and that 690 patients from surrounding districts had been treated. The report stated that since the opening of the new out-patient department the work had been greatly facilitated and that the new department was answering the expectations of the staff. The monetary record was not so satisfactory and the general committee had to admit an expenditure of £473 beyond the income for the year. There was a mortgage debt of £2800 on the building fund and a further sum had yet to be raised. It is to be hoped that increased support will be forthcoming during the present year in order that the work may be extended.

Hospital Sunday Fund.

The Hospital Sunday collections for some time have not been quite satisfactory and it was well known that some denominational bodies were not taking so active a part in the scheme as was desirable. It was decided, therefore, to hold a series of conferences with the various religious bodies to see if some satisfactory plan could not be discovered whereby the amount of the annual collection could be increased. In conformity with this plan a meeting of the representatives of the Wesleyan Church has been held. It was pointed out that the Wesleyan churches had many calls upon them that were peculiar to themselves and that a large amount of the money subscribed by Wesleyans was absorbed by the connexional funds and went out of the city. After some discussion of the proposal submitted by the subcommittee which has the matter in hand a motion was carried that the Wesleyan body should use every effort to further and to extend the interests of Hospital Sunday. It was suggested by some of the ministers present at the meeting that the committee should consider the establishment of a plan to place hospital tickets at the disposal of the ministers of the churches which collected on behalf of the Fund and Mr. Frank Impey, the honorary secretary, said he believed the suggestion would be received sympathetically by the committee.

An Interesting Discovery at Water Orton.

During the progress of the excavations which are being made at Water Orton, on the land of the Birmingham Tame and Rea district drainage board, a workman discovered a mammoth's tusk. It lay about 16½ feet below the surface in the upper Keuper marl and was in two pieces, of which the larger was 18 inches long and 8 inches in circumference. The tusk is in a good state of preservation, the grain of the ivory being quite distinct. It has been decided to present the tusk to the University but in the meantime it is to be shown next month at the annual conversazione of the Birmingham Natural History Society.

The Stoke-on-Trent Union Workhouse.

In my last letter I drew attention to the unsatisfactory arrangements for the accommodation of children in the Stoke-on-Trent union workhouse. The position of affairs resulted from a decision of the guardians that children under five years of age should not go to the homes; this resulted in overcrowding of the nursery at the workhouse, and overcrowding of the hospital was caused by the sending of children suffering from infectious diseases from the homes to the hospital. The committee appointed to inquire into, and to report upon, the conditions disclosed recommended that provision should be made for the increasing number of children, that children should be admitted to the homes at two years of age, and that the necessary additional buildings should be erected at the homes. After discussion the report was adopted, together with a report advocating additional accommodation at the workhouse. There is every prospect, therefore, that before long matters will be put on a proper footing and that the accommodation provided will be satisfactory.

Some Local Health Reports.

During the last two weeks the death-rate of the city has risen first to 15·6 and then to 16·6 per 1000. This has been due partly to diarrhœa and partly to the increase in the fatality of respiratory diseases. The number of fresh cases of scarlet fever continues to fluctuate between 60 and 80 per week, but during the past week the number of diphtheria cases has diminished considerably, only 19 cases being reported as against 30 in the previous week.—The quarterly report of the medical officer of the Yardley district council, Dr. Wilson, shows a very satisfactory state of affairs in that district. The birth-rate was 27·7 per 1000 per annum, the death-rate 7·7 per 1000, and the infantile mortality rate was only 65 per 1000, a very distinct contrast to the 116 per 1000 during the past two years. This low infantile mortality is due, however, not so much

to better care as to the absence of diarrhœa.—From the monthly report of the medical officer of Oldbury (Mr. G. B. Buttery) the health of that district also appears to be good. The death-rate for the month was 12 per 1000 and epidemic diarrhœa was practically absent but scarlet fever was somewhat prevalent.—In Handsworth the medical officer (Dr. R. A. Lyster) reports that during September the death-rate was 6·8 per 1000, the average for the same month being 10·7, and the birth-rate was 17·3 per 1000.

Oct. 15th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Liverpool Housing Committee.

THE final meeting for the municipal year of the housing committee of the city council was held on Oct. 11th. Mr. John Morris, the deputy chairman, moved a vote of hearty thanks to Dr. Richard Caton for his work as chairman during the year. He (the speaker) had worked harmoniously side by side with him and he could say that Dr. Caton had his heart in the work and never allowed politics or anything else to stand in the way of the work of housing the poorest of the poor in the city. They were proud that their chairman should have been chosen for the lord mayoralty and they all trusted that he would have a very happy year of office. Alderman Cohen seconded the motion, and remarked that the committee had never, thanks to the tact of Dr. Caton, worked more harmoniously than under his chairmanship. Dr. Caton made a suitable and feeling reply.

St. Luke's Day Medical Service.

The annual service for medical men (inaugurated by Mr. Fred. W. Lowndes in 1901) will be held at St. Luke's Church on Sunday next (for St. Luke's Day), Oct. 20th, at 3 P.M. The sermon will be preached by the Dean of Manchester and the collection, which last year reached £25, will be devoted, as usual, to the Medical Benevolent Fund.

The Liverpool Royal Infirmary.

Mr. Rushton Parker, the senior surgeon, has resigned his office owing to efflux of time. The election for a successor will take place about the middle of November. The prospective candidates for the vacancy, I understand, are Mr. Robert A. Bickersteth and Mr. W. Thelwall Thomas.

Gift of a Pasteurising Plant to the Liverpool Health Committee.

The visit of the representatives of the Liverpool corporation to the International Health Congress held at Brussels has yielded one tangible result. While there Mr. Jacob, one of the Liverpool representatives, came into contact with Mr. Nathan Strauss, of New York, who has at his own cost done much towards the preservation of infant life by the establishment of a pasteurising plant for the preparation of milk for infants. Mr. Jacob brought before the health committee an offer made by Mr. Strauss of a pasteurising plant, and Dr. E. W. Hope (the medical officer of health) having reported favourably on the matter the committee resolved to accept the offer with thanks. Mr. Strauss, besides offering a plant of the value of £400, has arranged that his medical adviser should visit Liverpool to superintend its installation.

Diphtheria in St. Helens Schools.

At a recent meeting of the St. Helens health committee Dr. J. J. Buchan, the medical officer of health, read a report on diphtheria which revealed a serious state of affairs. The report stated that he (Dr. Buchan) found it necessary to advise the closure of the mixed and infants' departments of St. Joseph's School, Peasley Cross, from Oct. 4th to 25th on account of the prevalence of diphtheria and sore-throat among the scholars. On Sept. 25th the attention of the school nurse on visiting this school was called to a child living in Chancery-lane, Parr, who was in attendance at the school ill with sore-throat. The nurse examined the child and found her temperature to be 102° F., and saw on the throat a white membrane suggestive of diphtheria; she sent the child home at once and on visiting the house found another child also sick and suffering from a sore-throat. Swabs were taken from the throats of both children and the parents were advised to call in their own medical adviser at once. On bacteriological examination of the exudation from the throat diphtheria bacilli were found. Dr. Buchan saw the patients in consultation with the medical adviser of the family. The children were notified as suffering from diphtheria and were removed to hospital on Sept. 26th. The school was again visited on Sept. 26th and 27th, when it was found that suspicious sore-throats had been prevalent. Swabs were taken from the throats in the class affected and in eight cases diphtheria bacilli were found to be present. These children were excluded from the school but on the occurrence of two fresh cases on Oct. 1st the throats of all the scholars were medically examined by himself and the assistant medical officer of health. In no less than 85 cases diphtheroid bacilli were found to be present and in these circumstances he deemed it necessary to close the school as stated. He also drew the attention of the committee to the want of water and lavatory accommodation in this school; the children during the examination were particularly noted to have very dirty hands and faces and this was certainly due to a large extent to the want of means in the school for cleansing. He also suggested that there ought to be means in every school whereby children could have a drink of water without going to the caretaker's house. An important part of the report lay in Dr. Buchan's remarks that the attendance last year reached the high average of 95 per cent., and although he did not wish to suggest that this had been an unnaturally high percentage, nevertheless he felt that any attempt to maintain such a level in any school must frequently lead to the admission into school of children in an unfit state. The number of children attending the school was stated to have been upwards of 300. Needless to say, the whole question was referred to the education committee.

Oct. 15th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Swansea Waterworks.

IN common with other coal-mining districts it has been found necessary in Swansea to go to a considerable distance from the town in order to secure a supply of water sufficient for the needs of the inhabitants. For many years they were dependent upon water obtained from gathering grounds situated on the coal measures, but with the extension of colliery operations beneath the watershed there was a consequent decrease in the amount of water obtainable and for the same reason difficulties were constantly arising connected with the reservoirs which it was found extremely difficult to keep in a watertight condition. It was therefore decided about 16 years ago to secure a supply, which would be practically unlimited, from the adjoining county of Brecon. The Cray valley was selected as a suitable locality in which an artificial lake could be constructed by placing a dam across its lower portion. The reservoir which has thus been formed and which was formally opened by the Mayor of Swansea on Oct. 2nd is 1000 feet above sea level. It is one and a quarter miles long, a quarter of a mile wide, and has an area of about 100 acres, with a storage capacity of 1,000,000,000 gallons. The gathering ground is 2640 acres in extent and is absolutely uninhabited. The rainfall in some portions has averaged over 100 inches yearly and never since records have been taken has it been less than 70 inches annually. The water is conveyed to the distributing reservoirs in Swansea first of all through a tunnel three miles long and then along piped mains. The total cost of the undertaking has been £550,000, a sum which includes £186,000 paid for the purchase of land. No provision appears to have been made to deal with any "plumbo-solvent" action which is such a well-known characteristic of moorland waters. It may not at once make itself apparent and no doubt the responsible officials are fully alive to the difficulties which they may have to face in this direction in the future. The Act of Parliament authorising the undertaking contains important sections which enable the inhabitants within a mile from the main pipe line to demand and to obtain a supply of water for their requirements, leaving, however, a prior claim to Swansea of 25 gallons per head. The districts which could take advantage of this provision contain a population of some 60,000 persons and some have already arranged to take a supply from the Swansea mains.

Water-supplies in Monmouthshire.

A further step has been taken by the Monmouthshire county council in connexion with the proposed scheme for the supply of the more populous parts of the county from gathering grounds on the borders of Breconshire and Monmouthshire. The Parliamentary committee of the council has decided to recommend the promotion of a Bill in the next session of Parliament having for its object the carrying out of Mr. Baldwin Latham's proposal to construct three reservoirs of a capacity sufficient to supply 4,000,000 gallons daily.[1] There are certain colliery districts with an aggregate population approaching 60,000 persons, including Ebbw Vale, Nantyglo and Blaina, and Tredegar, where waterworks have already been provided and these places will be excluded from the scheme.

The Bristol Royal Infirmary.

The members of the honorary medical and surgical staff of the Bristol Royal Infirmary have forwarded a letter to the governors of that institution in which they state their position in regard to the recent proposed legislation on the question of external appointments held by the staff. The state of affairs was explained in the last number of THE LANCET. The writers add that with the full knowledge that such a proceeding is repugnant to the honorary staff and to the profession at large they can hardly believe that the governors will persist in imposing a rule of this nature upon the medical men who give their voluntary services to the infirmary. If in the final result the rule is not withdrawn they will feel bound to tender their resignations and they wish it to be made clear that they cannot hold office under any similar rule which they consider opposed to the best interests both of the infirmary and of their successors.

Oct. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Royal Infirmary.

AT a meeting of the board of this institution a motion was adopted expressing appreciation of the services rendered to the institution by Dr. Alexander James and Dr. C. W. MacGillivray, whose terms of office as physician and surgeon respectively had expired. The motion regarding Dr. James, and submitted by Dr. C E. Underhill, one of the representatives of the Royal College of Physicians, stated that the managers "fully realise and highly appreciate the assiduous and constant attention he has paid to the patients under his care and the great success which has attended his labours, and they are well aware that his skill as a teacher of clinical medicine has been shown by the large number of students who have taken advantage of his instruction in the wards under his care. By his kindly and considerate manner to all with whom he came in contact, by his great ability, and by his unwearied devotion to duty, he has endeared himself to his patients, his students, and his colleagues. In parting with Dr. James the managers offer him their heartiest good wishes and as a testimony of their esteem for him appoint him one of the consulting physicians to the institution." A similar recognition was paid to Dr. MacGillivray by appointing him one of the consulting surgeons to the institution.—Owing to the increasing work expected of the assistant physicians the board of managers has intimated that it is to appoint an additional assistant physician at the first meeting in November and that applications have to be lodged by the first of the month. Dr. Edwin Bramwell and Dr. W. T. Ritchie are already in the field and no doubt others will presently enter. It may be mentioned that on the extra-mural side of the infirmary the physicians are giving the assistant physicians a more definite share in clinical teaching. It is a matter of regret that the physicians on the university side have not yet seen the desirability of doing likewise.

Royal Dick Veterinary College.

At the opening meeting of this college, which was presided over by Principal Sir William Turner, strong reference was made to the very imperfect premises in which the college was housed. The chairman referred to the obstacles which had been placed in the way of the university to prevent them giving a degree in veterinary medicine but expressed the hope that these might yet be surmounted.

The University of Edinburgh and the Surgeons to the Royal Infirmary.

With reference to the paragraph in THE LANCET of Oct. 12th, p. 1059, regarding "Clinical Instruction and Examination in Scottish Universities" it is well to state that a difficulty seems to have arisen which was not altogether unforeseen. The purpose was to make *all* the infirmary surgeons lecturers and examiners on clinical surgery in the university and not merely *recognised* in the extra-mural school. The proposal has been "in the air" for many years and it was thought that the university was the non-progressive element in the matter. Now that the university has made the proposal for the change indicated it appears that the surgeons are not prepared to accept it. Whether the difficulties will be overcome time only will disclose. That difficulty should have arisen has no doubt been a disappointment to those who advocated the change.

The Treatment of Cancer.

When so many distinguished men of science are striving, so far without success, to discover a cure for cancer, it is matter for surprise to find that the institution which goes by the name of the Glasgow Cancer and Skin Institution has for some time been "curing" cancer by medical means. This year, however, the institution has surpassed itself. Of the 46 new cases of cancer treated during the year 45 are stated to have been discharged well. At the annual meeting of subscribers to the institution held last week the chairman, who seems to be an Edinburgh solicitor, expressed regret that medical men when they fell in with a case of cancer could only call in an eminent surgeon. He thought it unfortunate that medical students became practitioners without studying or hearing about the medical treatment of cancer. If Mr. Andrew Carnegie or some one else would found a chair in the University of Glasgow for this special subject the community would have the benefit of medical men properly trained in the treatment of cancer. He thought also that if a Royal Commission were appointed to consider the matter, as had been promised by the Prime Minister some time ago, it would be found that medical remedies for cancer had been almost entirely successful and that that was the proper mode of treating cancer. Another layman who spoke was greatly distressed by the prejudice shown by medical men against the institution. He had discussed the institution with lady doctors and he was sorry to find the same prejudice amongst them. It was almost useless to reason with those ladies on the subject because their minds had been made up that the old system of treatment was just what they were going to stick to. The chairman is apparently ignorant of the fact that a Royal Commission on the subject exists. The institution is mentioned in the Medical Directory but the names of the staff are not given.

Colony for Epileptics at Bridge of Weir.

It is satisfactory to learn that the work among epileptics carried on at the Orphan Homes, Bridge of Weir, is progressing in the right direction. The first home for this branch of the work has only been open 13 months and plans are now being prepared to build a second home on the same lines. For this object the directors have already received over £4000. The colony provides the advantage of country life and occupation for those who are otherwise debarred from such and in that way helps to prevent that deterioration of mind and body which naturally follows the life of enforced idleness which many an epileptic has to lead. Young men from 15 years upwards are eligible for admission on payment of 10s. weekly, provided they are sane and capable of being trained to work.

Morningfield Hospital, Aberdeen.

The committee of management of Morningfield Hospital met recently, Mr. George M. Cook presiding. It was reported that there were 78 patients in the hospital, 28 males, 46 female adults, and four children. On the recommendation of the committee on applications one patient was ordered to be admitted to the female general ward and one to the female phthisical ward, and also a girl to the children's ward. The treasurer intimated the receipt of a grant of £200 allocated from the residue of the estate of the late Miss Helen Walker, Aberdeen. Arrangements for a sale of patients' work in the hospital on Oct. 16th were intimated. The chairman reported the issue of an appeal by him for new and increased annual subscriptions, as owing

[1] THE LANCET, August 3rd, 1907, p. 326.

to the death of subscribers and other causes the income had fallen much below the needs of the institution. The subscriptions last year amounted to £247, while patients' payments came to £157, indicating that the patients and their friends were doing what they could. The average cost of maintaining each patient was only £27 12*s.* 5*d.*, yet apart from legacies there was a deficiency on the year of £1235. The appeal was for a considerable number of additional subscribers of £5, £2, and £1 each, and the feeling was expressed that as the needs of the hospital only required to be known to insure a ready response a large addition to the annual income would ensue.

The Epidemic of Enteric Fever at Peterhead.

During the week before last three cases of enteric fever were notified to the medical officer of the burgh of Peterhead. All the cases were removed to the hospital. Six patients were dismissed after recovery, then leaving 14 in the hospital. At a meeting of the public health committee of the Peterhead town council held on Oct. 2nd the recommendation by Professor Matthew Hay to close the wells within the town was considered and the sanitary inspector was instructed to put up permanent notices at the Cairntrodlie, Washinghouse, and Blackhouse wells warning the public against using the water for drinking or domestic purposes. One case of cerebro-spinal meningitis occurred in the burgh during the month.

The University of Aberdeen: the Extended Session.

At a meeting of the general council of the University of Aberdeen in April a special committee was appointed to bring up a report on the question of an extended session of three terms to the next meeting of the council. This report has now been drawn up and will come before the University council this week. The views expressed by individual members of the committee, and particularly by Professor Harrower, Professor Davidson, Professor Thomson, Professor Baillie, Professor Terry, and Professor Macdonald, as appearing from their respective memoranda, are so divergent that the committee has thought it best to transmit the documents to the general council for its information.

Oct. 14th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

The Epidemic of "Spotted Fever" in Belfast: Local Government Board Report.

CONSIDERABLE astonishment is felt in medical circles in Belfast in reference to some statements which appear in the recently issued annual Blue-book of the Irish Local Government Board. Dr. C. J. Clibborn, medical inspector of the Belfast district, states that in his opinion the infection of "spotted fever" was first conveyed to Belfast by a coal-heaver who worked on one of the ships from the Clyde. As a result there ensued 233 cases, of which 154 were fatal, the mortality being 68 per cent. among males attacked and 62 per cent. among females. Children under ten years of age and young adults were most frequently attacked and in every age the disease was more prevalent among males than among females. The duration of illness in the fatal cases varied from ten hours to 82 days. Dr. Clibborn says that the disease apparently became first established in filthy houses, but as to the question of the medium by which infection is conveyed the medical inspector wisely declares that "in the present state of our knowledge it is not possible to express an opinion." Now, it would be interesting to have the clinical and pathological evidence to support the statement that a coal-heaver who worked on one of the ships from the Clyde conveyed the disease to Belfast. Again, Professor E. J. McWeeney, the Irish bacteriologist, who furnishes to the Board a detailed report of his studies of the malady, states that the producing organism cannot maintain itself outside the human body long enough to lie dormant in dust and furniture, and so propagate, and it has never been found outside the human body, but it has been found in the mucous membrane of the throats of healthy people or of people with slight naso-pharyngeal catarrh who had come close to cases of the disease. He has no doubt that it is transmitted by coccus-bearing "contacts." Renewed and earnest investigations on various points are, he states, still necessary. Now Professor McWeeney lives in Dublin which fortunately has not suffered from the disease and knows little of the Belfast epidemic which showed many interesting points. 1. Repeated examination of those in intimate contact with cases of cerebro-spinal fever failed to confirm the German view as to the presence of meningococci in the throat. 2. As to the specific organism not being able to "maintain itself outside the human body long enough to lie dormant in dust and furniture and so propagate," what explanation is to be given of cases, several examples of which have occurred during the Belfast epidemic, in which the disease has recurred in the same house after lengthened intervals, and how can the marked abdominal lesions, found in fatal cases in the Belfast outbreak, be explained on the view that the specific organism creeps up from the nose through the skull-bones to the brain? So far as the Belfast experience goes, the necropsies would support the view that the disease was more probably swallowed and that the brain and spinal cord became secondarily infected. As to the contact theory put forward (that is, that the disease is conveyed by intermediate "contacts"), it is to be feared that this is a mere statement, unsupported by any scientific evidence. In the Belfast epidemic no medical man or student coming in direct contact with a case of cerebro-spinal fever contracted the disease. One nurse who had conveyed a case to hospital died from the disease but on closer investigation it appeared that she was actually sickening of the complaint before she went for the patient, so that she cannot be cited as an example of the contagiousness of the malady. The one student who died had never seen a case of the disease and he was one of the earliest victims of "spotted fever." How can it be explained—on the contact theory—that the disease remained so confined to Belfast and spread so little to surrounding towns? Although Dublin is so near Belfast (several trainfuls of people going there each day) there was no epidemic in that city while it prevailed in Belfast, and when last the disease was prevalent in Dublin, 1885–86, and to a slight extent in 1890, it did not appear in epidemic form in Belfast. The truth is, public health officials think, from the fact that cerebro-spinal fever is called an epidemic, it must spread by contagion or (according to the latest theory) by "contacts"; and all the treatment based on this view, isolation of patients, disinfection, &c., had, so far as scientific evidence goes, no effect in Belfast. The disease simply wore itself out or the conditions which called the meningococcus into activity ceased to exist. It is far better to be candid (that is, to have "honest doubt") and to admit that we do not know exactly how the disease is conveyed or spread (by contagion or by food). To state that intermediate "contacts" carry the poison to a third party without ever themselves contracting the disease is only saying, in the absence of any scientific evidence, that we know nothing of its real etiology. Again, the Belfast epidemic would certainly not support the view, hitherto maintained by many and even taught in a book recently published for students, that posterior basic meningitis is to be regarded as the infantile type of cerebro-spinal meningitis or the sporadic variety of the epidemic form for two reasons: first, clinically the two types are altogether different; and secondly, bacteriologically they can be distinguished because the blood in the cases of the recent Belfast cerebro-spinal epidemic, while it reacted to its own meningococci, did not do so to the cocci of the basic type and *vice versâ* while the blood of the latter did not react to the meningococci in the Belfast epidemic form it did to the cocci present in its own type of disease. Further, the blood in the case of the Belfast epidemic reacted to the meningococci present in the epidemics on the continent.

Anti-tuberculosis Campaign in Ireland.

Under the immediate auspices of Her Excellency the Countess of Aberdeen a Tuberculosis Exhibition, in which everything bearing on the question of the causation, prevention, and treatment (appliances, literature, shelters, specimens, diagrams, &c.), was opened in the Village Hall of the Irish Industries Section of the great Dublin Exhibition at Ballsbridge on Oct. 12th. Her Excellency having explained the objects and aims of the Women's National Health Association of Ireland, of which she is President, and of the origin of the Tuberculosis Exhibition, called upon the Lord Lieutenant who in declaring the exhibition open said he could not hold thinking that in no function could a Lord Lieutenant be more fittingly concerned than in the one of that day and that

personally he could say he had never taken part in any object with which he sympathised more fully. Before formally declaring the exhibition open he read the following message from the King which was very loudly applauded by the crowded audience:—

I am commanded by the King to express his good wishes for the success of the Tuberculosis Exhibition, the first of the kind ever held in Great Britain and Ireland, on the occasion of its being opened by you. His Majesty is greatly interested in the problem of checking the progress of this disease, and he trusts the exhibition may be the means of directing the attention of the public to the terrible ravages caused by this scourge and to the efforts that are now being made to arrest its progress. (Signed) KNOLLYS.

The Chief Secretary for Ireland (Mr. A. Birrell, M.P.), in a very interesting speech, said that that exhibition, in his opinion, would be their first step in a successful war against the terrible disease tuberculosis. Professor Osler, Regius professor of medicine in the University of Oxford, mentioned an interesting fact that it was in Dublin that a strong public health movement was first inaugurated by a remarkable man, Sir William Petty. There were numerous letters between Donne and the Molyneuxes relating to the investigation which John Locke and Petty had made in that city—as far back as 1683—dealing with the private notification of disease. The fight against tuberculosis was a people's battle to be waged by themselves. He ridiculed the idea that the moist climate of Ireland had anything to do with the prevalence of consumption and, in conclusion, said that to conquer the disease they wanted as essential certain things, and these were fresh air, good food, good houses, and hope. On behalf of the association Lady Aberdeen tendered a hearty vote of thanks to His Excellency, to the Chief Secretary for Ireland, and to Professor Osler for being present that day.—On the previous evening, Oct. 11th, in the theatre of the Royal Dublin Society, a lecture was delivered by Professor Osler on "What the Public can do in the Fight against Tuberculosis." The Lord Lieutenant presided and the Countess of Aberdeen was present, as well as a very large attendance of distinguished members of the medical profession and the public. After pointing out by diagrams the appalling fact that in 1906 about 12,000 died in Ireland from tuberculosis (which meant 120,000 ill of the disease), which was equal to one-sixth of the entire number of deaths from all causes, Professor Osler showed how the Irish medical profession and the public health authorities had almost abolished typhus fever in that country and they could also do the same in the case of tuberculosis. He advised the institution of an educational campaign such as that inaugurated by the Women's National Health Association of Ireland to combat the scourge. He showed that compulsory notification was absolutely necessary. At the conclusion of the address a hearty vote of thanks, moved by the President of the Royal College of Physicians of Ireland, Dr. Joseph M. Redmond, and seconded by Dr. James Little, Regius professor of physic in the University of Dublin, was accorded to the lecturer. In reply to a vote of thanks, moved by Sir Henry R. Swanzy (President of the Royal College of Surgeons in Ireland), and seconded by Sir Charles Cameron, to the Lord Lieutenant, His Excellency suggested that the meeting should adopt a motion affirming the possibility of repressing and stamping out tuberculosis in Ireland and pledging itself to support and promote every well-considered effort towards that end. This was seconded by Dr. M. F. Cox and carried unanimously.

Oct. 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Partial Resection of the Lower Jaw.

AT a meeting of the Surgical Society held on Oct. 2nd M. Morestin showed a tumour of the lower jaw which he had removed from a man, 20 years of age, a negro. The tumour was first noticed about two years ago and at the time of the operation it had attained the size of a man's fist. The removal of it was rather difficult. Microscopical examination showed that it was a pure osteoma—a rare neoplasm as affecting the jaw—and not an odontoma, as M. Morestin at first believed it to be. The patient, moreover, possessed the full number of teeth.

Arsenious Acid as a Preventive of Trypanosomiasis.

M. Laveran has presented to the Academy of Sciences a joint communication by himself and M. Thiroux on the prophylactic employment of arsenious acid against trypanosomiasis. Their conclusion is that arsenious acid has no prophylactic power in reference to this disease comparable to that of quinine against malaria, and that the prolonged use of arsenious acid in large doses is dangerous.

International Congress of Hydrology, Climatology, and Geology.

The International Congress of Hydrology, Climatology, and Geology will hold its eighth meeting at Algiers from April 4th to 10th, 1909, under the patronage of the Governor-General of Algeria. The date of meeting will correspond with the Easter holidays and the president will be M. Moreau, professor of hygiene in the School of Medicine of Algiers. All inquiries and other communications should be addressed to Professor Ardin-Delteil, vice-president of the organising committee of the Congress.

The Zola Bequest.

The widow of Emile Zola, the novelist, has presented to the Assistance Publique of Paris the beautiful property which she and her husband possessed at Medan. It has now been opened for the reception of convalescent infants from the Children's Hospital. The house has accordingly been altered in some respects (*transformée en pouponnière*) and the whole has been placed under the superintendence of Dr. Méry. Accommodation is provided for 30 infants. These little patients generally succumb when kept in the crèche at the hospital, but they will probably survive on removal to country air and healthful surroundings.

The Effects Produced by Compression and Crushing of the Sensory Ganglia.

At a meeting of the Academy of Sciences held on Sept. 23rd M. Marinesco and M. Minea communicated an account of their researches on the lesions which follow compression and crushing of the sensory ganglia. Their previous experiments on grafting the sensory ganglia and injecting irritant substances into them had shown that the ganglion cells possessed great elasticity which enabled them to change their form and to send out processes. M. Marinesco and M. Minea then endeavoured to produce the same results by other agencies. Using hæmostatic forceps they accordingly compressed the plexiform ganglion and the cervical ganglia of puppies and kittens in varying degrees for three seconds. A histological examination which was made some days afterwards showed that the lesions of the nerve cells had a direct relation to the intensity of the injury. Moderate compression of the sensory ganglia modified the surface tension and the osmotic pressure of the nerve cells and gave rise to periglomerular arborisations and to pericellular plexuses. On the other hand, crushing these ganglia altered the morphology of the cells and paralysed the nerve-forming power of the neuron to a greater or less extent according to the degree of injury.

The Surgical Treatment of Pulmonary Cysts.

M. Vautrin made a communication to the Surgical Congress recently held in Paris on the surgical treatment of cysts of the lung which are not complicated by pleural adhesions. He reported a case of this nature in a man, aged 37 years, who had been treated for pulmonary tuberculosis until a radiographic examination revealed a hydatid cyst. M. Vautrin resected the sixth, seventh, and eighth ribs and opened the parietal pleura, taking care to let in the air very slowly to the pleural cavity by means of a very small opening; having located the lesion, he sutured the lung to the parietal pleura and incised the cyst; the friable hydatid membrane was removed piecemeal and the cavity drained. A perfect cure was obtained in five weeks' time.

Oct 15th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Martyrology of Medicine.

AT his native Tortona, on the initiative of the local Historical Society, reinforced by the municipality and all that was most prominent among the "cittadinanza," including a large number of professional brethren, the late Dr. Tito Carbone, professor of pathological anatomy in the University of Pisa, has just been honoured by the unveiling of a bust to his memory. He was but 43 years of age when he died—a victim to his own enthusiasm and

self-abnegation in the cause of medicine and humanity. A series of experiments practised on his own person to ascertain what his compatriots call the "etio-pathology" of Maltese fever reacted fatally on a constitution never very strong, and to the grief of his colleagues and pupils and all his contemporaries in scientific research he succumbed just when his investigations gave promise of precious results. The ceremony of unveiling the bust was deeply impressive, held as it was in front of the grand new "Edifizio Scolastico," on the façade of which the bust itself, a *chef d'œuvre* in bronze of the sculptor Bistolfi, had been inserted. Professor Cereti, in the name of the Historical Society, opened the proceedings in a short address, at the close of which he called on the orator of the day, Dr. Antonio Cesari-Demel, professor of pathological anatomy in the Pisan school, to pronounce the "éloge de circonstance." This was a highly finished and an eloquent discourse which did ample justice to the many gifts and excellencies of Tito Carbone, as one who will, to a remote posterity, appeal to the votaries of medicine and humanity as a brilliant and intrepid worker in their cause.

"*Pro Historia Medicina*."

In the local "aula magna" of Perugia a large assemblage of medical teachers and native students took last week the first steps towards the supply of a widely felt want—an organisation for the systematic study of the history of medicine. Among those present were Professor Simonetti of Milan, Professor Barduzzi, Rector of the University of Siena, Professor Giacosa of Turin, Professor Malocchi of Bologna, Professor Alberotti of Pavia, and Professor Romiti of Pisa—names well known in the medico-academic world. The "Società Italiana per la Storia della Medicina" was then and there duly constituted—its aim, according to the "Statuto" as read by Professor Barduzzi, being that of encouraging the cultivation of medical history and of the natural sciences of which medicine is the crown and culmination by means of university prælections, periodical publications, and congresses at frequent intervals, these last being reinforced by expositions of the "armamentarium medicinæ" in its widest sense. Among the papers subsequently read and discussed were those of Professor Zeno Zanetti, lecturer on midwifery in the Umbrian School, his theme being "Medicina Popolare in Rapporto colla Storia delle Scienze Mediche," a very interesting contribution to the subject; and of Professor Carlo Ruata (a name familiar to readers of THE LANCET), who holds the chair of materia medica and pharmacology in the same seat of learning. Professor Ruata's thesis was the "History of the English Vaccination Acts," in which, to the regret rather than to the surprise of many of his colleagues, and those not the least authoritative, he gave expression to his well-known views in opposition to the Jennerian prophylactic. He met an able antagonist in Dr. Piero Giacosa, professor of materia medica in the University of Turin, who, while acknowledging the fair and courteous spirit in which Professor Ruata advocated the cause of the English anti-vaccinationists, maintained the orthodox view and practice with his accustomed vigour and effect. An interesting paper by Professor Bellucci on Amulets in Relation to Popular Medicine was admirably illustrated by the local Esposizione Archeologica, a visit to which proved not the least attractive item in the programme of the congress, which closed a highly successful meeting with a trip to Assisi, famous as the birthplace of the greatest of Roman elegiac poets, Propertius, and of the saintly founder of the Franciscan Order.

Oct. 14th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Burgomaster of Vienna on Vaccination and Small-pox.

THE recent outbreak of small-pox in Vienna has been followed by a remarkable conflict between Dr. Lueger, the burgomaster or chief magistrate, and the general body of the medical profession in the city. At the last meeting of the corporation the burgomaster in very vehement terms denounced the State authorities for having alarmed the population by recommending immediate vaccination and at the same time he used some strong language in criticising the medical practitioners who had, as he expressed it, victimised the public in their desire to make money by poisoning people with vaccination. In consequence of this attack all the medical societies and clubs held a joint meeting in which a protest was formulated against this reprehensible attitude of the chief magistrate of the city council, who was at the same time requested in polite but energetic terms to withdraw his assertions, as they were in absolute contradiction to the facts and could not be reconciled with the health reports issued by the city council itself. In particular the burgomaster's statement that amputations and deaths had been brought about by vaccination and that vaccinated persons succumbed more readily to the disease than unvaccinated persons was absolutely false, as proved by the reports. The medical profession has also threatened to refuse any further assistance to the city authorities if these unfounded imputations are not promptly withdrawn.

Meeting of Medical Councils.

In each of the constituent countries of the Austrian Empire there is a medical council and the twelfth meeting of these councils took place on Sept. 19th and 20th. Some of the motions adopted at this meeting were in substance as follows:—

1. A university degree in medicine entitling the holder to practise not to be cancelled except in the event of a dishonourable crime being committed by such holder.
2. Medical men not to be liable to punishment for being present at duels in their professional capacity.
3. Any person who, without possessing a diploma entitling him to practise in Austria, shall, except in cases of emergency, undertake the medical treatment of patients, either for money or gratuitously, to be liable to imprisonment, and if the treatment results in permanent disablement the unauthorised practitioner to be held responsible and made liable to a suit for damages.
4. Advertising truss-makers and persons using ill-defined titles, such as orthopædists, to be specially controlled by the councils.
5. Medical men practising in health resorts not to be considered ethically incorrect if they visit their *confrères* for the purpose of inducing them to send patients to a particular health resort.
6. The fees for the notification of infectious diseases to be paid by the State, and the present law, which punishes every practitioner who does not notify cases of infectious disease under his care, to be abrogated.

A committee has been formed to draw up a Bill to be submitted to Parliament making vaccination and revaccination compulsory. Motions were also adopted relative to the fees of medical witnesses, the insurance of medical men against accidents, and the mutual relations of insurance companies and certifying medical men. In Austria the fee for an examination for insurance purposes is from 5 to 10 kronen (from 4*s.* to 8*s.*).

Defective Teeth in Children.

The importance of the proper care of children's teeth was referred to at a recent meeting of the Medical Society. It was mentioned that a due proportion of calcium salts in the mother's milk was a prime requisite for the proper development of a child's teeth. All sterilised foods, as well as cow's milk wrongly treated, easily led to the formation of defective teeth, whilst this in its turn was responsible not only for malnutrition in later years—namely, from two to six years of age—but also for disorders of the alimentary canal. The prevention of dental disease should always be kept in view. The children of the wealthier classes, whose food was often selected from the most elaborate preparations on the market, suffered not less with their teeth than the children of the poorer classes whose food consisted of inferior milk and an excess of carbohydrates. The teeth most liable to decay were the upper incisors and the lower premolars. The correlation of mouth-breathing, defective teeth, and adenoids was not yet clearly made out, but no doubt this correlation was not due to faulty nutrition alone.

The Sale of a Medical Practice declared Illegal.

A recent decision of the High Court of Justice has again pronounced the sale of a medical practice to be unlawful, because it is contrary to the ethics of the medical profession. In the case in question an elderly medical man who was retiring from professional work sold his practice to a young man on the representation that it was worth £500 a year. The newcomer, however, did not even make one-fifth of that sum and refused to continue to pay the half-yearly instalments which had been agreed upon. Both the court which first heard the case and the Court of Appeal disallowed the vendor's claim. The High Court, in finally deciding in favour of the buyer, declared that the buyer's scientific attainments and not his financial position must be considered; such a transfer could not be called a business transaction; and the only way of taking over a medical practice was for the successor to obtain the goodwill of the retiring

practitioner so that the latter would not settle down in the immediate neighbourhood of the former.

Stenosis of the Bowel after Forcible Taxis and Reposition.

Dr. Pendl, writing to the *Klinische Wochenschrift*, describes a rare case of stenosis of the bowel after incarceration of a hernia with subsequent taxis. He explains the stenosis by the detrimental effect which the long-continued interruption of the circulation by the manipulation had upon the intestinal wall, leading, after some time, to the formation of an internal cicatrix which might attain large dimensions. The patient, a man of humble position in life, suddenly developed a large hernia which was reduced after the application of great force and two months later he suffered from stenosis of the bowel, which increased in such a degree that he had to be operated upon. No constricting bands were found but the intestine itself in the region of the hernia was converted into a hard fibrous canal, with a lumen of about half an inch in diameter extending for a distance of four inches. The stenosis corresponded exactly with the situation of the former hernia and the operation gave evident proof of the detrimental effect on the nutrition of the part which had been handled severely. Dr. Pendl said that in similar cases he had found the application of compresses of thermophor for many hours a very useful method for reducing a hernia without taxis.

Oct. 14th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Expensive Living and Public Health.

LIFE in Constantinople becomes every year more and more expensive and the same is the case also in many parts of the provinces. The reasons are many and varied but are chiefly of a politico-economical kind. All the different serious internal troubles and disturbances could not but leave disastrous effects upon the whole fabric of the State's economy. When extensive cornfields remain untilled, when those who ought to be engaged in cultivating the ground are busily occupying themselves with works of upheaval and plans of revolution, and when depraved outlaws hold unlimited sway defying authority and law, then the general well-being of the country, its progressive economical development, and the growth of its vital resources must necessarily suffer. That such unsatisfactory economical conditions tell very unfavourably upon matters of public health is not difficult to surmise. From many a town in the provinces come daily crying demands for more flour and more meat. The people in towns such as Erzeroum and Bitlis seem to be in danger of famine. The lack of victuals has been, it is reported, the cause of riots whereby in some places numbers of persons were killed and others wounded. Various diseases associated with famine, such as scurvy, are prevailing. In the metropolis itself matters have not come to such a crisis, though the population, and especially the poorer classes, begin to feel the calamitous effects of the scarcity of such an elementary foodstuff as flour. In consequence of this scarcity the price of bread has greatly increased. To be able to supply the requisite quantity unscrupulous bakers sacrifice the quality of flour, frequently mixing with it ingredients injurious to health. The butchers have recourse to a similar practice, selling meat of a very bad quality. Diseased, tuberculous cattle are slaughtered and sold in the public markets. Such a thing is quite possible here, where the sanitary supervision of the slaughter-houses is very deficient. A case is reported in one of the local newspapers of a man who was brought before the courts in Stamboul who recovered from the sea the carcass of a cow and sold it as good meat to the public. There is also great lack of fuel and people look with apprehension to the approaching winter. The Government is doing all that lies in its power to improve these untoward conditions. Thus, the exportation of flour from Turkey has been prohibited, whereas its importation is allowed to take place free of Custom House duties. In view of the expense of living, the question has also been raised by competent authorities of increasing the salaries of all the military medical men. They are exceedingly inadequately paid, yet their obligations and duties are frequently overwhelming. The Berlin newspaper *Lokal Anzeiger* recently published a telegram stating that of the 24 medical men who were to be sent to Yemen as many as 23 escaped, at present hiding themselves in the capital. The evasion of Turkish military medical men from active service in the army is quite a common occurrence. It is hoped that with the increase of their salaries such a practice will become a matter of the past.

Pulmonary Tuberculosis in Smyrna.

News has reached Constantinople that pulmonary tuberculosis is making great ravages in the city of Smyrna. Thus in less than a month over 70 cases of death from this disease have been registered there. The central medical authorities in the metropolis have been asked to take effective measures of prevention. The deplorable state of things is attributed to various dangerous practices of the ignorant populace, such as unrestricted selling of the clothes of the diseased, carpet-beating from the windows of houses where tuberculous patients live, the sleeping of several people in one room with the diseased, and the complete omission to disinfect the dwelling-place of the latter. It is intended to create a Special Hygienic Commission at Smyrna for the purpose of bringing about a better state of affairs in the sanitary condition of the people.

Oct. 4th.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the quarterly examination held on Oct. 10th the following gentlemen were approved in Practical Pharmacy:—

Thomas Ewart Ashley, University College, Bristol; Charles Nelson Atlee, St. Mary's Hospital; John Joseph Clarke, London Hospital; Archibald Wallace Duncan, St. Mary's Hospital; Hugh Galloway, Westminster Hospital; William John Gibson, London Hospital; Alfred James Graves, Middlesex Hospital; Alan Ashton Henderson, University College Hospital; George Lawson Harvey Johnston, Westminster Hospital; Clifford Yule Laing Victoria University, Manchester; George Llewellyn, University College, Cardiff; John Thomas Lloyd, London Hospital; Maurice Charles Mason, St. Mary's Hospital; William Mathieson, B.A. Cantab., Cambridge University and St Thomas's Hospital; Albert Harold Owen, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; William Norman Awdry Paley, Westminster Hospital; Dyfrig Huws Pennant, University College, Cardiff; Ernest Alfred Pywell, St Thomas's Hospital; Mohamed Salem, Guy's Hospital; Sydney Sharples, Liverpool University; Richard Henry Easington Stevens, University College Hospital; Archibald Farrell Waterhouse, Sheffield University; Watkin Watkins, University College, Cardiff; Lionel Charles Watkins-Baker, University College, Bristol; Frank Wells, St. Mary's Hospital; and Frederic St. Barbe Wickham, St. Mary's Hospital.

At the Second Professional Examination in Anatomy and Physiology held on Oct. 3rd, 4th, 7th, and 8th the following gentlemen were approved:—

Jehangir Dhanjishaw Anklesaria, Bombay University and King's College; Joseph Pugh Benskin, B.A. Cantab., Cambridge University; Fleetwood Stirling Digby Berry, Guy's Hospital; Thomas Rufus Bowen, University College, Cardiff; Samuel Lindsay Brohier, L.M. & S. Ceylon, Ceylon Medical College and King's College; James Jackson Brown, Montreal and London Hospital; Leonard Kingsford Cooper, University College; William Russell Cooper, University College, London, and Glasgow University; Edward Abraham Coorey, L.M. & S. Ceylon, Ceylon Medical College and London Hospital; Edward George Huxley Cowen, Charing Cross Hospital; John Adamson Edmond, Guy's Hospital; Bertie Cecil Eskell, University College, Bristol; Edwin Llewellyn Zenas Pickling St. George's and King's College Hospitals; Lennard Game, King's College; Norman Lester Guilford, King's College; Septimus Theodosius Gunasekara, L.M. & S. Ceylon, Ceylon Medical College; Alfred Herbert James, University College; Thomas Hitchings James, London Hospital; Mirza Mohammed Khan, University College; Stanislaus Joseph Lauder, Bombay and London Hospital; Edwin Algernon Lisday, B.A. McGill, McGill University and University College; James Parkinson Lupton, St. Thomas's Hospital; Colin McIver, University College; Chittayil Ramunni Menon, L.M. & S. Madras, Madras and King's College; Charles Noon, St. Bartholomew's Hospital; Richard James Paget, Middlesex Hospital; Thomas Stanley Rippon, University College Bristol; Frederick Francis Saldanha, L.M. & S. Bombay, Bombay and King's College; Ernest Gerald Stanley, St. Bartholomew's Hospital; Edwin Lawrance Sturdee, St. Bartholomew's Hospital; Jal Sorabji Bezonji Vakil, L.M. & S. Bombay, Grant Medical College, Bombay; Carl Rudolf Baltzar von Braun, St. Bartholomew's Hospital; Frederic Jeune Willans, Durham and London Hospital; Rajaiya Robert Williams, L.R.C.P. & S. Edin., L.F.P.S. Glasg., Madras Medical College; and Harold Addison Woodruff, University College.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the ordinary Council held on Oct. 10th diplomas of M.R.C.S.

were conferred upon the following gentlemen who have now complied with the by-laws:—

Reginald Jamison, M.B., B.Ch. Oxon., Oxford University and St. Bartholomew's Hospital; Colonel Harry Montgomery, M.B. Toronto, Toronto University; Robert John Percival McCulloch, M.B. Toronto, Toronto University and London Hospital; Dudley Garencières Pearson, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; and Arthur John Turner, M.B., B.S. Durh., Durham University and London Hospital.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examination held recently the following candidates passed in the subjects indicated:—

PART I.

Biology.—F. G. Norbury, Liverpool.
Chemistry.—F. G. Norbury Liverpool; and S. B. Webster, Sheffield.
Materia Medica and Pharmacy.—I. M. Bernard, Royal Free Hospital; and J. G. Morgan, London Hospital.

PART II.

Anatomy.—F. S. Hawks, King's College Hospital; C. B. Hawthorne, Cambridge and Birmingham; G. Whitehead, Manchester; and J. W. Williams, Cardiff and Guy's Hospital.
Physiology.—W. E. Dimond, Liverpool; F. S. Hawks, King's College Hospital; A. Singha, Royal Free Hospital; G. Whitehead, Manchester; and J. W. Williams, Cardiff and Guy's Hospital.

UNIVERSITY OF CAMBRIDGE.—The following candidates have satisfied the examiners in both parts of the Sanitary Science Examination:—

R. C. E. Atkinson, F. A. Bainbridge, Annie T. Barnard, J. Bibby, G. G. Buchanan, Catharine L. Corbett, C. N. Davis, A. H. Fardon, R. B. B. Foster, D. W. Hunter, E. Jennings, Florence B. Lambert, J. E. Macilwaine, W. A. Milne, F. H. Noke, F. L. Pochin, D. F. Riddell, M. de L. Robinson, G. Udale Smith, Barbara Tchaykovsky, J. E. Thomson, and Ada M. Whitlock.

The following degrees were conferred on Oct. 10th:—

M.B., B.C.—Edward F. Skinner.
M.B.—B. H. Stewart.

—Professor G. H. F. Nuttall has appointed Mr. A. H. Lees, B.A., King's College, to the Research Studentship in Medical Entomology.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Max Westenhoeffer, *privat-docent* of Pathological Anatomy, has been granted the title of Professor.—*Buenos Ayres:* Dr. M. Acuña has been appointed Assistant Professor of Pædiatry.—*Giessen:* Dr. von Franqué of Prague has been appointed Extraordinary Professor of Gynæcology in succession to Dr. Pfannenstiel.—*Göttingen:* Dr. Karl Hirsch of Freiburg has been appointed Professor of Clinical Medicine in succession to Dr. W. His.—*Graz:* Dr. Josef Hertle has been recognised as *privat-docent* of Surgery.—*Königsberg:* Dr. Alfred Stieda, *privat docent* of Surgery, has been granted the title of Professor.—*Naples:* Dr. Fabrizio Padula has been appointed Extraordinary Professor of Surgical Anatomy and Operations, and Dr. Nicola Pane Extraordinary Professor of Bacteriology.—*Padua:* Dr. Edoardo Orifice has been recognised as *privat-docent* of Pædiatry.—*Tübingen:* Dr. Otfried Müller has been appointed Professor of Pædiatry.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The winter session commenced on Tuesday, Oct. 15th, when the prizes of the previous session were distributed by the President of the College as follows:—Barker anatomical prize: £31 10s., G. S. Levis. Carmichael scholarship: £15, J. Menton. Gold medals in operative surgery: P. G. M. Elvery and T. Sheehy (equal). Stoney memorial gold medal in anatomy: Miss I. M. Clarke and G. C. Sneyd (equal). Descriptive anatomy: Junior: J. T. Duncan, first prize (£2) and medal; T. Dowzer, second prize (£1) and certificate. Senior: H. G. P. Armitage, first prize (£2) and medal; W. Swan, second prize (£1) and certificate. Practical anatomy: first year, T. M. Thomson; first prize (£2) and medal; F. W. Warren, second prize (£1) and certificate. Second year: W. Swan, first prize (£2) and medal; H. G. P. Armitage, second prize (£1) and certificate. Practice of medicine: C. Greer, first prize (£2) and medal; G. S. Levis, second prize (£1) and certificate. Surgery: G. S. Levis, first prize (£2) and medal; W. R. Burton, second prize (£1) and certificate. Midwifery: H. W. White, first prize (£2) and medal; G. S. Levis, second prize (£1) and certificate. Physiology: H. M. E. H. M'Adoo, first prize (£2) and medal; O. G. Connell, second prize (£1) and certificate. Chemistry: P. V. Crowe, first prize (£2) and medal; J. T. Duncan, second prize (£1) and certificate. Pathology: I. Scher, first prize (£2) and medal; C. Greer, second prize (£1) and certificate. Physics: J. T. Duncan, first prize (£2) and medal; T. Buckley, second prize (£1) and certificate. Practical histology: F. W. Warren, first prize (£2) and medal; J. S. Pegum, second prize (£1) and certificate. Practical chemistry: H. C. Gilmore and J. Kirker (equal), first prize (£2) and medal. Public health and forensic medicine: H. Hunt, first prize (£2) and medal; Miss C. F. Williamson, second prize (£1) and certificate. Materia medica: J. Menton, first prize (£2) and medal; Miss C. F. Williamson, second prize (£1) and certificate. Biology: J. T. Duncan, first prize (£2) and medal; P. V. Crowe, second prize (£1) and certificate.

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of this society was held on Oct. 9th, Dr. G. F. Blandford, the President, being in the chair. One new member was elected and the death of a member was reported. It was decided that a Christmas present of £544 should be distributed among the annuitants of the charity, each widow to receive £10, each orphan £3, and each orphan on the Copeland fund £5. Since the last court a donation of £100 had been received from the executors of the late Mr. W. Cattlin. Mr. Cattlin was elected a member of the society in 1860. Five letters had been received from widows of medical men who had not been members of the society asking for relief, but for this reason it had to be refused as relief is only granted to the widows or orphans of deceased members. Membership is open to any registered medical practitioner who at the time of his election is resident within a 20 mile radius of Charing Cross. Full particulars and application forms may be obtained from the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, London, W. The secretary attends there on Wednesdays and Fridays from 4 to 5 o'clock should a personal application be desired.

THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—The annual dinner of the Incorporated Society of Medical Officers of Health was held at the Trocadéro Restaurant, London, W., on Oct. 11th, the President, Dr. George Reid, medical officer of health of the county of Stafford, being in the chair. There were about 80 members of the society and their friends present, many of the guests being ladies. Sir James Crichton-Browne, in proposing the toast of "The Houses of Parliament," said that during the past half century there had been a remarkable differentiation, but not separation, of medical officers of health from general practitioners. He expressed the hope that another session of Parliament would not be allowed to pass without giving to medical officers of health that permanency of office which was essential not only for their own independence and peace of mind but so requisite for the public welfare. The Earl of Harrowby, in responding, said that his position as chairman of the sanitary committee of the Staffordshire county council enabled him to appreciate what had been done and what was being done at the present moment by medical officers of health all over the country. Mr. George Cave, K.C., M.P., also responded. Dr. Macnamara, M.P., in proposing the toast of "The Society of Medical Officers of Health," spoke in appreciative terms of the work done by the society. He regretted that too often the members of the society had to carry the banner of reform under most adverse influences and in an atmosphere charged with active hostility. In rural district especially they had to choose not infrequently between a continuance of conditions which they knew to be harmful and the giving of offence to those upon whom they were dependent for their very means of livelihood. Although from his official position he could not enter into the question of security of tenure of office he admitted that it was a question which would have to receive the very serious attention of Parliament at an early date and hinted that advantage would be taken of the Housing Bill which would be introduced next year to make the position of the medical officer of health less intolerable than it is at present. The President, in responding, said that the time had gone by when the principal qualification of a medical officer of health was considered to be a capacity for detecting smells and the public health service was now coming to be regarded in a higher light than formerly. Sir Shirley F. Murphy, in proposing the toast of "Kindred Societies," spoke of the necessity for a new Public Health Act. Mr. Searles Wood, F.R.I.B.A., of the Royal Sanitary Institute, responded. The toast of "The Visitors" was proposed by Dr. H. R. Kenwood and replied to by Mr. W. S. Brough, vice-chairman of the Staffordshire county council. The proceedings were enlivened with songs by Miss Edith Selpell, humorous

sketches by Mr. Nelson Jackson, and some very clever sleight-of-hand tricks by Mr. Frederick Moore.

THE King of Siam has appointed Dr. Börger, Staff-Surgeon in the Prussian Army, to be his Body Physician.

Dr. Richard Kandt, whose name is known in connexion with the discovery of the sources of the Nile, has been appointed German Imperial Resident in the Sultanate of Ruanda, East Africa. Before starting on his African travels Dr. Kandt practised medicine in Bayreuth and in Munich for several years.

DONATIONS AND BEQUESTS.—Her Majesty the Queen, the President of the London Hospital, has sent a donation of 600 guineas to that institution.—The late Mr. E. Harwood, of Olveston, Gloucestershire, has bequeathed £100 each to the Bristol General Hospital and the Bristol Royal Infirmary.—The late Mr. F. W. Dymond of Heavitree (Exeter) has bequeathed £1000 to the Exeter Dispensary.

CHINA'S IMPORTED MEDICINES.—It appears from a report written by Sir Alexander Hosie, acting commercial attaché to His Majesty's Legation at Peking, that the imports of medicines into China rose in value from £287,081 in 1905 to £351,736 in 1906, an increase of nearly 80 per cent. compared with the average imports of the previous five years. Hong-Kong always appears as the chief exporter of medicines to China but it is impossible to distinguish between native and foreign medicines imported, for the mere fact of coming from Hong-Kong gives them a foreign status. But if that colony be eliminated altogether it will be found that Japan heads the list. In 1905 the value of Japanese medicines sent directly to China was £24,976, against the United Kingdom's £23,848. Germany came next with £7777 and the United States followed Germany with £4485. The Japanese are very keen competitors in this branch of business; they make up their medicines in small doses so as to be within the purchasing capacity of the poorest, and each little packet or bottle is carefully labelled with the name of the medicine and the cures which it is expected to effect.

CENTRAL MIDWIVES BOARD.—A meeting of this Board was held at Caxton House, Westminster, on Oct. 10th, Dr. F. H. Champneys being in the chair. A letter from the Under Secretary of State for the Home Department as to the Board's request that the convictions of all certified midwives in police courts should be reported directly to the Board and inquiring whether and in what manner the existing system of report by the local supervising authority under Section 8 (4) of the Midwives Act had failed was considered. The Board decided that the Home Secretary should be informed that there are local supervising authorities which fail to discharge their duties under the Midwives Act. A letter from the clerk to the Somerset county council, inquiring as to the conditions under which the local supervising authority's power of suspension arises, was considered. It was decided that the reply of the Board should be that there need not be a visible focus of infection before the power of the local supervising authority to suspend arises; that there must be reasonable grounds for apprehending infection in a particular area; that the question of what are reasonable grounds is a matter for the decision of the local supervising authority in each case; that a contravention of any of the rules laid down by the Board for the purpose of preventing the spread of infection (Rule F) would afford reasonable grounds for suspension; that the rules laid down for the purpose of preventing the spread of infection are Rules E, 1–5, 7–11, 14, 16, 19; and notwithstanding that the local supervising authority alone has the power of suspension (and then only for the purpose of preventing "the spread of infection") there are no means of enforcing an order of suspension except by a report to the Central Midwives Board, the penal course of which would be to strike the offender off the roll of midwives. Letters were considered from the town clerk of Bradford and from the inspector of midwives for Bradford, asking the Board to modify the terms of Rule E, 26, which is as follows: "The proper designation of a certified midwife is 'Certified Midwife,' thus, e.g., Mary Smith, Certified Midwife. No abbreviation in the form of initial letters is permitted nor any other description of the qualification." The Board directed that the town clerk of Bradford and the inspector of midwives should be informed that the Board cannot dispense with the enforcement of the rule. A letter was considered from Dr. R. J. Paton, of the Newport and Monmouthshire Hospital, inquiring whether it is essential that candidates for the Board's examination should be taught the operations of applying the forceps, version, and stitching a ruptured perineum. The Board directed that Dr. Paton should be informed that the rules do not permit midwives to perform such operations.

INCREASE OF FEVER IN THE METROPOLIS.—At a meeting of the Metropolitan Asylums Board on Oct. 12th the hospitals committee submitted a report dealing with the increase of admissions of infectious diseases which the Board had had to deal with during the past four weeks. The committee stated that the serious rise of infectious disease which was taking place in the metropolis at the present time had necessitated its special consideration of the question of the adequacy of the Board's existing isolation provision for this year's requirements. When the Board met on Sept. 14th the returns submitted showed 4804 patients remaining under treatment. On Oct. 3rd there were 5593 patients in the hospitals, an increase of 789 cases in three weeks. The daily admissions for those three weeks had reached the high average of 134—as many as 166, 161, and 157 respectively having been admitted on four of the days. So large a total as nearly 5600 beds being occupied at one time had not before been reached in the Board's history at so early a stage of seasonal prevalence of fevers and only once exceeded—on Nov. 21st, 1899, when 5710 cases were under treatment. At the date of the committee's meeting, Oct. 3rd, they were within 120 of that maximum seven weeks earlier. The committee pointed out that the highest point in fever epidemics was usually reached about the second or third week in November, and what demands for beds might be made upon the Board during the ensuing intervening weeks it was impossible to foretell, but present figures and indications did not encourage the anticipation of an early abatement of the pressure. Up to the present time no application for admission had been refused, but the accommodation for scarlet fever cases in the acute hospitals was nearly exhausted and a possible rise in diphtheria could not be left out of account. The committee therefore recommended that, subject to the assent of the Local Government Board, Joyce Green Hospital, which was at present empty of patients, should be utilised temporarily for acute fever patients. Mr. W. Dennis, the chairman of the committee, in moving the adoption of the report, said that up to the present all previous records of the Board in dealing with epidemics had been broken, and as usual the great proportion of the admissions had been scarlet fever cases. The Local Government Board having seen the gravity of the situation had already given its consent to the committee's proposals and it only remained for the Board to endorse the committee's action and to allow it to send fever cases to Joyce Green Hospital. The recommendation of the committee was agreed to and the report was adopted without discussion. The fever returns for the fortnight ended Thursday, Oct. 10th, showed that 2000 persons suffering from fever had been admitted into the various hospitals of the Board; 79 had died and 1267 had been discharged recovered. The number remaining under treatment was 5895, being an increase of 645 as compared with the previous fortnight. Of the total number 4674 were suffering from scarlet fever, 1116 from diphtheria, 103 from enteric fever, and two from other diseases. There were no cases of small-pox under treatment.

BOOKS, ETC., RECEIVED.

APPLETON, SIDNEY, 25, Bedford-street, Covent Garden, London, W.C.
Minor Medicine. A Treatise on the Nature and Treatment of Common Ailments. By Walter Essex Wynter, M.D., B.S Lond., F.R.C.P., F.R.C.S., Physician to the Middlesex Hospital and Lecturer on Medicine in the Medical School, Examiner in Medicine to the Royal College of Physicians. Price 6s. net.

ARNOLD, EDWARD, 41 and 43, Maddox-street, Bond-street, London, W.
The Child's Mind, its Growth and Training. Being a Short Study of Some Processes of Learning and Teaching. By W. E. Urwick, M.A. Price 4s. 6d. net.
A History of Chemistry. By Dr. Hugo Bauer, Royal Technical Institute, Stuttgart. Translated by K. V. Stanford, B.Sc. Lond., Priestley Research Scholar in the University of Birmingham. Price 3s. 6d. net.
An Introduction to Child-Study. By W. B. Drummond, M.B., C.M., F.R.C.P.E., Assistant Physician to the Royal Hospital for

Sick Children, Edinburgh; Medical Officer and Lecturer on Hygiene to the Edinburgh Provincial Committee for the Training of Teachers. Price 6s. net.

ARNOLD, E. J., AND SON, LIMITED, Leeds and Glasgow.

Lessons in Practical Hygiene. For Use in Schools. By Alice Ravenhill, F.R.San.I., late Lecturer on Hygiene, and Inspector, County Council, West Riding of Yorkshire; Lecturer, University of London Extension Board. With Preface by Professor M. E. Sadler, M.A. Price 5s. net.

CASSELL AND COMPANY, LIMITED, London, Paris, New York, Toronto, and Melbourne.

Light and X-Ray Treatment of Skin Diseases. By Malcolm Morris, F.R.C.S. Ed., Dermatologist to King Edward VII. Hospital for Officers, Surgeon to the Skin Department of the Seamen's Hospital, Consulting Surgeon to the Skin Department of St. Mary's Hospital; and S. Ernest Dore, M.D. Cantab., Assistant in the Skin Department of the Middlesex Hospital. Price 5s.

Surgical Applied Anatomy. By Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D., F.R.C.S., Sergeant Surgeon-in-Ordinary to H.M. the King; Surgeon-in-Ordinary to H.R.H. the Prince of Wales; Consulting Surgeon to the London Hospital; late Lecturer on Anatomy at the London Hospital. Fifth edition, revised by Arthur Keith, M.D., F.R.C.S., Lecturer on and Senior Demonstrator of Anatomy at the London Hospital. Price 9s. net.

he Romance of Medicine. By Ronald Campbell Macfie, M.A. Aberd., M.B., C.M. Price 6s. net.

CLIVE, W. B., University Tutorial Press, Limited, 157, Drury-lane, London, W.C.

The University Tutorial Series. Science German Course. By C. W. Paget Moffatt, M.A. Lond., M.B., B.C. Camb. Price 3s. 6d.

COULET ET FILS, 5, Grande Rue, Montpellier. (MASSON ET CIE, Boulevard Saint-Germain, 120, Paris.)

Petite Chirurgie et Pratiques Spéciales Courantes. Par P. Soubeyran, Professeur Agrégé à la Faculté de Médecine de Montpellier, et P. Ardin-Delteil, Professeur de Clinique Médicale à l'Ecole de Médecine d'Alger. Price Fr.9.

DUCKWORTH AND Co., 3, Henrietta-street, Covent Garden, London, W.C.

Agricultural Botany, Theoretical and Practical. By John Percival, M.A., F.L.S., Director of the Department of Agriculture and Horticulture, University College, Reading. Third edition. Price 7s. 6d. net.

FISCHER, GUSTAV, Jena.

XIV. Internationaler Kongress für Hygiene und Demographie. Die gesetzlichen Grundlagen der Seuchenbekämpfung im Deutschen Reiche unter besonderer Berücksichtigung Preussens. Von Dr. Martin Kirchner, Geheimem Obermedizinalrat und vortragendem Rat im Ministerium der geistlichen, Unterrichts- und Medizinal-Angelegenheiten. Festschrift, dargeboten von dem Preussischen Minister der geistlichen, Unterrichts- und Medizinal-Angelegenheiten. Price not stated.

XIV. Internationaler Kongress für Hygiene und Demographie, Berlin, 1907. Medizinische Anstalten auf dem Gebiete der Volksgesundheitspflege in Preussen. Festschrift, dargeboten von dem Preussischen Minister der geistlichen, Unterrichts- und Medizinal-Angelegenheiten. Price not stated.

FOOD AND COOKERY PUBLISHING AGENCY, 329, Vauxhall-bridge-road, London, S.W.

Potato Cookery: 300 Ways of Preparing and Cookery Potatoes. By Alfred Suzanne, Ex-Chef to the Duke of Bedford, and C. Herman Senn, Formerly of the Reform Club, and for Fourteen Years Inspecting and Consulting Chef to the National Training School of Cookery. With Introduction by J. C. Buckmaster, M.A., J.P. Price 1s. 6d. net.

FROWDE, HENRY, Oxford University Press, London, New York, and Toronto.

Autobiography of Edward Gibbon. As originally edited by Lord Sheffield. With an Introduction by J. B. Bury, Regius Professor of Modern History, Cambridge. Price 1s. net.

HEINEMANN, WILLIAM, London.

Metabolism and Practical Medicine. By Carl von Noorden, Professor of the First University Medical Clinic, Vienna. Vol. III. The Pathology of Metabolism. By Carl von Noorden, H. Salomon, A. Schmidt, A. Czerny, H. Steinitz, C. Dapper, M. Matthes, C. Neuberg, O. Loewi, and L. Mohr. English Issue under the Editorship of I. Walker Hall, Professor of Pathology, University College, Bristol; Pathologist to the Bristol Royal Infirmary. In three volumes. Price £2 12s. 6d. net.

HENRY PHIPPS INSTITUTE, 238, Pine-street, Philadelphia, U.S.A.

Third Annual Report of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis. Feb. 1st, 1906, to Feb. 1st, 1905. Edited by Joseph Walsh, A.M., M.D. Price not stated.

JOHN BALE, SONS, AND DANIELSSON, LIMITED, Great Titchfield-street, London, W.

Some Successful Prescriptions. By A. Herbert Hart, M.D. Price 1s.

KIMPTON, HENRY, 13, Furnival-street, Holborn, London, E.C. (STENHOUSE, ALEXANDER, 40 AND 42, University-avenue, Glasgow.)

The Practice of Obstetrics. By American Authors. Edited by Charles Jewett, M.D., Professor of Obstetrics and Gynecology in the Long Island College Hospital, New York. Third edition, revised and enlarged. Price 21s. net.

Blood Examination and its Value in Tropical Disease. By Claud F. Fothergill, M.R.C.S. Eng., L.R.C.P. Lond., B.A., M.B. B.C. Camb. With a Preface by Major Ronald Ross, F.R.S., C.B., Professor of Tropical Medicine, University of Liverpool, &c. Price 2s. 6d. net.

KING, P. S. AND SON, Orchard House, Westminster, London, S.W.

My Dog is Sick. By Canis. Price 1s. 6d. net.

LEWIS, H. K., 136, Gower-street, London, W.C.

Hygiene and Public Health. By Louis C. Parkes, M.D., D.P.H. Univ. of Lond., Consulting Sanitary Adviser to H.M. Office of Works; Civilian Sanitary Member of the Advisory Board for Army Medical Services; Medical Officer of Health of the Metropolitan Borough of Chelsea; Examiner in Hygiene and Public Health to the University of London; Fellow of the Royal Sanitary Institute; and Henry R. Kenwood, M.B. Edin., D.P.H. Lond., Professor of Hygiene and Public Health at University College, London; Medical Officer of Health and Public Analyst of the Metropolitan Borough of Stoke Newington: Fellow of the Royal Sanitary Institute. Third edition, with illustrations. Price 10s. 6d. net.

MACMILLAN AND Co., LIMITED, St. Martin's-street, London.

The Technique of Vagino-Peritoneal Operations. By R. Wertheim and Th. Micholitsch. Translated into English by Cuthbert Lockyer, M.D., B.S., M.R.C.P. Lond., F.R.C.S. Eng., Fellow of the Royal Society of Medicine, London. Price 25s. net.

MARLBOROUGH, E. AND Co., 51, Old Bailey, London, E.C.

Tamil Self-Taught. (In Roman Characters.) With English Phonetic Pronunciation. By Don M. de Zilva Wickremasinghe, Epigraphist to the Ceylon Government, Librarian and Assistant Keeper of the Indian Institute, Oxford. Price, cloth, 2s. 6d.; wrapper 2s.

Japanese Self-Taught. (Thimm's System, in Roman Characters.) With English Phonetic Pronunciation. Edited by W. J. S. Shand, Director, School of Japanese Language and Literature, Birkbeck Bank Chambers, London. Price, cloth, 2s. 6d.; wrapper, 2s.

Hindústání Grammar Self-Taught. By Capt. C. A. Thimm. Second edition. Revised by Shams'ul 'Ulamá Sayyid 'Alí Bilgrámí, M.A. Cantab., LL.B., Assoc. R.S.M., London, M.R.A.S. Price, cloth, 2s. 6d.; wrapper, 2s.

PENTLAND, YOUNG J., Edinburgh and London.

Manual of Bacteriology. By Robert Muir, M.A., M.D., F.R.C.P. Ed., Professor of Pathology, University of Glasgow; and James Ritchie, M.A., M.D., B.Sc., Superintendent of the Royal College of Physicians' Laboratory, Edinburgh. Fourth edition. Price not stated.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 72, Great Russell-street, London, W.C.

The British Pharmaceutical Codex. An Imperial Dispensatory for the Use of Medical Practitioners and Pharmacists. By Authority of the Council of the Pharmaceutical Society of Great Britain. Price 12s. 6d. net.

PUTTKAMMER UND MÜHLBRECHT, Berlin.

Das Deutsche Reich in Gesundheitlicher und Demographischer Beziehung. Festschrift, den Teilnehmern am XIV. Internationalen Kongresse für Hygiene und Demographie, Berlin, 1907 gewidmet vom Kaiserlichen Gesundheitsamte und vom Kaiserlichen Statischen Amte. Price not stated.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton-street, Strand, London, W.C.

Nerve Diseases. For Students Commencing Hospital Practice. By L. A. Clutterbuck, M.D., B.S. Durham, M.R.C.P. Lond., L.R.C.P. & S. Edin., L.F.P. & S. Glasg., L.R.C.P. Ireland, Hon. Physician, St. Marylebone General Dispensary, Clinical Assistant, West End Hospital for Nervous Diseases, London, etc. Price 3s. net.

SMITH, ELDER, AND Co., 15, Waterloo-place, London, S.W.

First Aid to the Injured. Six Ambulance Lectures. By Dr. Friedrich Esmarch, Professor of Surgery at the University of Kiel, &c. Translated from the German by H.R.H. Princess Christian. Seventh and enlarged edition. Price 2s. net.

SPRINGER, JULIUS, Berlin.

Untersuchungen in der Puringruppe. (1882-1908.) Von Emil Fischer. Price M.15.

Gesundheitspflege und Wohlfahrtseinrichtungen im Bereiche der vereinigten preussischen und hessischen Staatseisenbahnen. Bearbeitet im preussischen Ministerium der öffentlichen Arbeiten. Price not stated.

Beiträge zur Kenntnis der Tsetsefliege (*Glossina fusca* und *Gl. tachinoides*). Von Dr. Franz Stuhlmann, Kais. Geheimen Regierungsrat und Direktor des Biologisch-Landwirtschaftlichen Instituts in Amani (Deutsch-Ostafrika). (Sonderabdruck aus "Arbeiten aus dem Kaiserlichen Gesundheitsamte," Band XXVI., Heft 3). Price M.10.

UNIVERSITY OF LONDON, South Kensington, London, S.W.

University of London. The Calendar for the Year 1907-1908. Price 5s. post free.

Regulations for External Students. September, 1907. Price 1s. Postage 4d.

Regulations and Courses for Internal Students. September, 1907.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BARLOW, T. W. N., M.R.C.S., L.R.C.P. Lond., D.P.H. Camb., has been appointed Medical Officer of Health for the Urban District Council of Wallasey.

BELL, W. W., L.S.A., has been appointed Clinical Assistant to St. John's Hospital for Diseases of the Skin, London.

BRAY, P. D., M.R.C.S., L.S.A., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

BROWN, A. CARNARVON, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer at the Farringdon General Dispensary and Lying-in Charity, Holborn-circus, London.

COWAN, J., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the New Galloway District of the county of Kirkcudbright.

DAVIDSON, JAMES A., M.B., Ch.B. Aberd., has been appointed Junior House Surgeon at the Croydon General Hospital.

JONES, ERNEST, M.D., B.S. Lond., M.R.C.S. Lond., D.P.H. Cantab., has been appointed Registrar and Pathologist to the West-End Hospital for Diseases of the Nervous System.

LAVERICK, F. R. H., M.D., B.S. Durh., has been appointed House Surgeon to the Torbay Hospital, Torquay.

PELLOW, JOHN EDWARDS, M.B., B.C. Cantab., has been appointed a District Medical Officer by the Bodmin (Cornwall) Board of Guardians.

PORTER, W., M.B., B.S. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Portrush District of the county of Antrim.

RICE, D., M.D. Brux., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Superintendent at the Norwich City Asylum

THOMAS, W., M.R.C.S., L.R.C.P., has been appointed Medical Officer and Public Vaccinator for the Third District by the Liskeard (Cornwall) Board of Guardians.

TURTON, EDWARD, M.D., Ch.B., B.Sc. Vict., M.D. Leeds, M.R.C.P. Lond., has been appointed Honorary Physician to the Hull Royal Infirmary.

WARREN, A. C., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

WILSON, JAMES J. P., M.B., Ch.B. Aberd., has been appointed Senior House Surgeon at the Croydon General Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer. Salary at rate of £100 per annum, with board, residence, &c.

BIRMINGHAM, CITY OF.—Assistant Medical Officer of Health. Salary £250 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeons, unmarried. Salary £150 per annum, with rooms, fire, lights, and attendance.

BRISTOL GENERAL HOSPITAL.—House Surgeon, House Physician, Casualty House Surgeon, and Assistant House Physician. Salaries £60 per annum, with board, residence, &c.

BRISTOL ROYAL INFIRMARY.—House Surgeon, also House Physician. Salaries £100 per annum, with apartments, board, and laundry.

CHELSEA INFIRMARY, Cale-street, S.W.—Assistant Medical Officer. Salary £120, rising to £150 per annum, with board, washing, apartments, &c.

CHELTENHAM GENERAL HOSPITAL.—House Physician, unmarried. Salary £65 per annum, with board and lodging.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with rooms, board, washing, and attendance.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, London, S.E.—House Physician. Salary at rate of £80 per annum, with board, residence, and washing. Also Assistant Surgeon.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £30 per annum, with board, residence, and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Anæsthetist. Salary 10 guineas per annum.

HOLBORN UNION INFIRMARY, Archway-road, Upper Holloway, N.—Assistant Medical Officer. Salary £100, rising to £140 per annum, with residential allowance.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25.

HUDDERSFIELD INFIRMARY.—Junior Assistant House Surgeon. Salary £60 per annum, with board, residence, and washing.

IPSWICH, EAST SUFFOLK HOSPITAL.—Third House Surgeon. Salary £50 per annum, with board, attendance, and washing.

ISLAND IN THE PACIFIC.—Medical Officer. Salary £300 per annum, with board and residence.

KENT AND CANTERBURY HOSPITAL.—House Physician, also House Surgeon, both unmarried. Salaries £90 per annum, with board and lodging.

LANCASTER COUNTY LUNATIC ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £250, with board, lodging, and washing.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—House Surgeon for six months. Salary at rate of £50 per annum, with board, &c.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £100 per annum, with board and lodging.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Senior House Surgeon, unmarried. Salary £100 per annum, with board and residence.

MANCHESTER, MONSALL FEVER HOSPITAL.—Fourth Medical Assistant. Salary £100 per annum, with board, lodgings, and washing.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer for Outpatients. Salary £105 per annum.

MARGATE ROYAL SEA-BATHING HOSPITAL.—Resident Surgeon. Salary at rate of £80 and £120 per annum, with board and residence.

MILLER HOSPITAL, Greenwich-road, S.E.—House Surgeon. Salary at rate of £80 per annum, with board, attendance, and washing.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Honorary Radiographer.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Resident Medical Officer. Salary £80 per annum, with board, residence, and laundry.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician also House Surgeon, both for six months. Salaries at rate of 50 guineas a year, with board and residence.

PARTICK, BURGH OF, KNIGHTSWOOD HOSPITAL.—Resident Medical Officer. Salary £100.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary at rate of £50 per annum, with board, residence, and washing. Also House Surgeon. Salary £100 per annum, with board, residence, and washing.

READING, ROYAL BERKSHIRE HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with board, lodging, and washing.

REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £130, rising to £150, with board, lodging, and washing.

ROCHESTER, SAINT BARTHOLOMEW'S HOSPITAL.—House Physician. Salary £110 per annum, with board and residence.

ROYAL EAR HOSPITAL, 43, Dean-street, Soho, London.—House Surgeon (non-resident). Salary £40 per annum.

ST. MARK'S HOSPITAL FOR FISTULA, &c., City-road, E.C.—Resident House Surgeon. Salary at rate of £80 per annum, with board and washing.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Demonstrator of Biology. Salary £70 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £50 per annum, with board, lodging, and washing.

SHEFFIELD UNION HOSPITAL.—Resident Assistant Medical Officer. Salary £80 per annum, with apartments, rations, &c.

SOUTHAMPTON FREE EYE HOSPITAL.—House Surgeon. Salary £70, with residence.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried. Salary at rate of £70 per annum, with residence, board, and washing.

SUNDERLAND BOROUGH ASYLUM.—Assistant Medical Officer. Salary £120, rising to £160, with, board, lodging, &c.

SUNDERLAND INFIRMARY.—House Surgeon. Salary £30 per annum, with board, residence, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Honorary Anæsthetist.

WAKEFIELD, CLAYTON HOSPITAL.—Two House Surgeons, unmarried. Salary of Senior £120 and of Junior £80 per annum, with board, lodging, and washing.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Honorary Medical Officer in charge of the Electrical Department.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Senior House Physician, House Physician, and Second House Surgeon. Salaries £100, £80, and £80 respectively, with board, lodging, and laundry.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Leamington, in the county of Warwick, on Jan. 1st next.

Births, Marriages, and Deaths.

BIRTHS.

GALLOWAY.—On the 10th October, at 54, Harley-street, London, W., to Dr. and Mrs. James Galloway—a son.

JEANS.—On Oct. 13th, at 43, Canning-street, Liverpool, the wife of Frank A. G. Jeans, M.A., M.B., B.C. Cantab., F.R.C.S. Eng., of a son.

THOMPSON.—On Oct. 5th, at Tutehill, Chepstow, the wife of Cecil C. B. Thompson, M.R.C.S., L.R.C.P., of a daughter.

WINGATE.—On Oct. 7th, at Canterbury, the wife of Captain Basil Fenton Wingate, R.A.M.C., of a son.

MARRIAGES.

CLAPHAM—WILLANS.—On Oct. 8th, at the parish church, Much Hadham, Herts, Roderic Arthur Clapham, M.B., to Bessie Gwendoline, only daughter of the late Thomas Church Willans

LEGAT—EDIS.—On Oct. 12th, at St. Peter's Church Sheringham, Robert Eddowes Legat, M.B., to Katharine, youngest daughter of the late Arthur W. Edis, M.D., F.R.C.P., and Mrs. Edis.

VERLING-BROWN—HAIR.—On the 9th inst., at St. Peter's Church, Belsize Park, N.W., by the Rev. A. J. Rendle, M.A., Rector of St. Aldate, Gloucester, cousin of the bridegroom, assisted by the Rev. — Hockey, M.A., Charles Richard Verling Brown, M.D. Lond., of Seymour House, Sutton, Surrey, elder son of the late Charles Brown, of "Carnarvon," Bournemouth, and Mrs. Brown, to Jane, younger daughter of J. Hair, Esq., of 14, Upper Park-road, Hampstead, N.W.

WESTERN—CARTER.—On Oct. 12th, at St. Mary's, Bridgwater, George Trench Western, M.D., B.C., to Augusta Sophia, daughter of W. H. Carter, Esq., of Bridgwater.

DEATHS.

BATE.—On the 13th inst., at 18, Southey-road, South Wimbledon, Frederick Henry Bate, M.R.C.S., L.S.A., in his 76th year.

ELLIOTT.—On Oct. 6th, at Hull, George Frederick Elliott, M.D., F.R.C.P. Eng.

KIRKPATRICK.—On Oct. 8th, at his residence, Springfield Lodge, Audlem, Cheshire, Arthur Kirkpatrick, M.A., L.F.P.S., L.M., for 30 years surgeon at Bunbury.

MILWARD.—On Oct. 1st, at Oxford, Lieutenant-Colonel Edwin Oswald Milward, R.A.M.C., aged 54.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE DISTRIBUTION OF OFFENSIVE LITERATURE.

WITH reference to this question a correspondent suggests that whenever any person discovers filthy literature being sent through the post that literature should be sent to the Postmaster-General who would be able to have its source traced and any further consignment impounded and destroyed without informing the issuer. The expense of postage followed by absence of business would, our correspondent thinks, be a most effectual punishment of, and check to, such practices. We commend our correspondent's idea to the Postmaster-General, but we are not quite certain whether that official has the power to impound matter intrusted to his care without informing the sender. It is, as we have said over and over again, an infamous thing that a great department of His Majesty's Government should be used for such purposes. The class of persons of whom we speak, however, are to some extent altering their methods: they do not advertise so much as they used to do in the newspapers and they are becoming less willing than before to use the post. Their favourite plan now is to drop their circulars into their hoped-for client's letter-box. Thus a correspondent at Nottingham has sent us an envelope addressed as follows: "To the lady of the house, with Nurse Argenti's Compliments." This envelope contained a circular stating that Nurse Argenti, late hospital nurse, of 14, Queensbridge-road, off Arkwright-street, Nottingham, is anxious to receive all who are suffering. Nurse Argenti describes herself as having had vast experience and as being a specialist in all female complaints. She also gives a dialogue said to have been overheard in Nurse Argenti's waiting-room between two ladies. This dialogue is written in the usual quack style with a nauseous mixture of cant. One of the speakers is made to say, "I believe there are those selected by the Almighty to do these wonderful things and this nurse must be one of them." Nurse Argenti also prints an open letter addressed to "My dear Sister" wherein she wishes to call the attention of her clients to the Malthusian question and says that she has her youthful appearance through the use of certain secret remedies which she has. In another part of the circular she states that she possesses the latest improved specialities and indiarubber Malthus appliances, &c.

A MEDICAL BADGE.

To the Editors of THE LANCET.

SIRS,—I certainly would not willingly adopt a badge of my vocation, not even one so little offensive as that worn by the various faculties in Brazil; but for the guidance of those of my colleagues who wish to proclaim their profession thus I would suggest a red stone, surrounded by small diamonds, mounted on a ring for the forefinger—as in Brazil—or little finger. I am, Sirs, yours faithfully,

Ballylanders. P. MARTYN O'DWYER, L.R.C.P.

AIR GAS.

ONE of the most interesting installations in the Machinery and Engineering Exhibition, now being held at Olympia, is that of the National Air Gas Company of 70A, Basinghall-street, London, E.C. The principle of treating ordinary air with an inflammable oil and utilising the mixture for illuminating and heating purposes is by no means new—in fact, at the present time there are many patents in operation. One of the great difficulties experienced by the manufacturers of gases of this kind has in the past been the prevention of alteration in composition of the mixtures. This alteration takes place from various causes, one of these being the latent heat of the petrol vapour, which produces a considerable fall in the temperature of the fluid when a large volume of air is passed over its surface. Another cause of inequality of composition is the variation of the external temperature which produces an increase or decrease of evaporation of the oil for the same air volume. These difficulties the National Air Gas Company claim to have overcome by their method. The gaseous mixture which they employ contains 1·48 parts of hydrocarbon vapour to 98·52 parts of air, and this proportion is maintained absolutely constant by their patent machinery. It is hardly necessary perhaps to point out that a mixture of this composition is non-explosive and, indeed, non-inflammable, this fact being easily demonstrated by holding a lighted match to an open pipe from which the gas is emerging. Any explosion or accidental poisoning from an escape of this gas into the air is therefore an impossibility. To render it combustible a special burner is required provided with a nickel gauze "atomiser." After passage through the latter the mixture burns with a hot non-luminous flame somewhat resembling that of a Bunsen burner with a very bright blue inner zone. The constituents of the gaseous mixture being simply hydrocarbon and a large supply of air it follows that the products of combustion consist of carbon dioxide and moisture only. From the hygienic point of view this is a fact of considerable importance, whilst the absence of sulphur products tends to enhance very greatly the durability and illuminati g power of the mantles employed for lighting purposes, while there is no corrosion of metal fittings or blacking of ceilings. The light obtained from this system when used with an incandescent mantle is exceptionally brilliant and efficient, being six times greater than that obtained from the same-sized mantle heated by coal-gas. The automatic control resulting in the production of a gas of uniform composition and the fact that the apparatus will run continuously from day to day, or only for a few hours if required, without attention, are points of considerable importance. The cost of working is also very small, being at the present price of petrol four-fifths of 1*d.* per 1000-candle power hour, or 7*d.* per 1000 cubic feet of gas. With these advantages the National Air Gas system will probably be in great demand, more especially in country districts where coal-gas and electric lighting are expensive or non-existent.

CONFINEMENT STATISTICS.

To the Editors of THE LANCET.

SIRS,—Dr. G. Porter Mathew published a small book, entitled "Clinical Observations on 2000 Obstetric Cases," about 1899. It was, I believe, his M.D. Thesis at Cambridge. I do not know who the publishers are. I am, Sirs, yours faithfully,

Oct. 14th, 1907. TERNUH.

THE FESTIVAL OF ST. LUKE.

A CORRESPONDENT writes:—The celebration of the Festival of St. Luke which comes round this week brings to my recollection a sermon which the Rev. R. K. Bolton, rector of Fenny Bentley, preached some time ago in support of the cottage hospital at Ashbourne in Derbyshire. He drew an interesting picture of Luke the physician, to whom we owe the most finished record in the New Testament, attaching himself to St. Paul at Troas in the north-west of Asia Minor. Both these men were persons of education and great mental gifts. St. Paul, although possessing indomitable energy and power of work, suffered from bodily infirmity which must have been aggravated by the various hardships and imprisonments which he endured. St. Luke remained his companion up to the latest recorded period of his history, and there is a depth of pathos in the words which St. Paul wrote to Timothy: "Only Luke is with me."

MALTA AND MEDITERRANEAN FEVER.

To the Editors of THE LANCET.

SIRS,—With reference to your article on Malta Fever in THE LANCET of Oct. 5th the report is issued by Sir (not Mr.) E M. Merewether. He was knighted some time ago (when H.M. the King was in Malta, I think). I am, Sirs, yours faithfully,

W. CARNEGIE BROWN.

Society of Tropical Medicine and Hygiene, Harley-street, W., Oct. 4th, 1907.

*** We are obliged to our correspondent. Mr. Merewether was gazetted K.C.V.O. on April 15th, 1907.—ED. L.

NEW DUST SHIELDS.

Messrs. W. H. Ranson and Co., of 1, Gresham Buildings, Basinghall-street, London, E C., have forwarded to us an ingenious contrivance intended to prevent dust and dirt from collecting in the corners of rooms, stairs, or cupboards. It consists of a triangular piece of polished sheet metal, measuring about three inches on each of its sides, stamped into the form of a very shallow tray presenting a uniformly rounded concavity. Each shield is provided with three holes by which it can be fastened with carpet tacks in the corner of a room or any similar situation. In this way a householder can easily obtain a tolerably good approximation to the rounded corners which are so important a feature in buildings constructed on hygienic principles and it would not be difficult to devise a means of filling up the small vacancy left behind the shield. The shields are made of either brass or iron and the price varies from 1*s.* 3*d.* to 6*d.* per dozen.

THE CLIMATE OF CROMARTY.

To the Editors of THE LANCET.

SIRS,—Having been offered the management of a small sanatorium on the West Coast of Cromarty, N.B., I am anxious to know before accepting the same what sort of climate one must expect to meet with there, chiefly during the winter. Having resided all my life in the South of England and not being very robust, I am wondering if I should be wise in settling down there. I am aged 40. Could any of your readers give information which would be of assistance?

I am, Sirs, yours faithfully,

Oct. 15th, 1907. CANTAB.

THE FALSETTO VOICE.

To the Editors of THE LANCET.

SIRS,—I cannot call to mind any book of recent date in which the production of the falsetto voice has been dealt with by a medical man. Can any of your readers refer me to one? Again, is it generally agreed that by singing much in the falsetto voice the ordinary singing voice is damaged? am, Sirs, yours faithfully,

Oct. 11th, 1907. L.

MOTOR-CARS FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—Would any of your readers kindly let me know a good motor for practice in a hilly country? Also average cost of working.

I am, Sirs, yours faithfully,

Oct. 15th, 1907. MERCURY.

WATERPROOF CEMENTS.

To the Editors of THE LANCET.

SIRS,—In response to your request to your readers to communicate any recipes for a water-resisting cement they may know of, I have pleasure in submitting the following: 1. Freshly slaked quick-lime, white of egg q.s. to form a stiff paste. 2. "Cæmentium," described as an "insoluble adhesive cement" which "sticks everything, but is not sticky." It is manufactured by the "Cæmentium" Company, whose agents are Benjamin and Gee, 31, St. Mary Axe, London, E.C.

I am, Sirs, yours faithfully,

Driffield, E. Yorks, Sept. 29th, 1907. A. T. BRAND, M.D. Aberd.

X.—Our correspondent has not inclosed his name and address.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30). P.M.

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (26th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (22nd).—ROYAL SOCIETY OF MEDICINE (MEDICAL SECTION (20, Hanover-square, W.).—5.30 P.M.: Discussion on Complications and Sequelæ of Pneumonia (opened by Dr. H. W. G. Mackenzie).

ROYAL SOCIETY OF MEDICINE (THERAPEUTICAL AND PHARMACOLOGICAL SECTION) (Apothecaries Hall, Blackfriars, E.H.).—Inaugural Address: The President (Dr. T. R. B. Brown). Discussion on Functional Dyspepsia (opened by Dr. R. Hutchison).

WEDNESDAY (23rd).—ROYAL SOCIETY OF MEDICINE (SURGICAL SECTION IN CONJUNCTION WITH THE CLINICAL, LARYNGOLOGICAL, MEDICAL, AND OBSTETRICAL SECTIONS).—5.30 P.M.: Special Meeting. Demonstration (by means of the epidiascope and microscopes):—Prof. Goldman (Freiburg): (1) The Growth of Malignant Disease in Man and the Lower Animals, with Special Reference to the Vascular System; (2) The Diagnosis, by the help of the X Rays, of Abdominal Malignant Disease, Subphrenic Abscess, Appendicitis, &c.

THURSDAY (24th).—CHILD-STUDY SOCIETY (Parkes Museum, Margaret-street, W.).—8 P.M.: Lecture:—Dr. C. A. Mercier: Principles of Education.

FRIDAY (25th).—ROYAL SOCIETY OF MEDICINE (EPIDEMIOLOGICAL SECTION) (20, Hanover-square, W.).—7.45 P.M.: Council Meeting. 8.30 P.M.: Presidential Address:—Dr. Newsholme: Poverty and Disease as illustrated by the Course of Typhus Fever and Phthisis in Ireland.

ROYAL SOCIETY OF MEDICINE (ELECTRO-THERAPEUTICAL SECTION) (20, Hanover-square, W.).—8.30 P.M.: President's Address.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (21st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—12 noon: Lecture:—Dr. Low: Pathological Demonstration. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Dunn: Cases of Diseases of the Eye.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. W. Fox: Clinique. (Skin.) 5.15 P.M.: Lecture:—Dr. W. C. Bosanquet: Pancreatic Disease.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie); 4.30 P.M.: Medical In-patient (Dr. A. J. Whiting).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. St Clair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat. 4 P.M.: Special Lecture: Dr. St Clair Thomson: Epistaxis.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—9 A.M.: Operations. 2.30 P.M.: In-patients—Medical (Dr. Beevor); Out-patients—Medical (Dr. Willcox), Surgical (Mr. Low), Eye (Mr. Morton and Mr. Coates).

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: Urticaria, Urticaria Pigmentosa, Lichen Urticatus, Prurigo.

ROYAL DENTAL HOSPITAL AND LONDON SCHOOL OF DENTAL SURGERY (Leicester-square, W.C.).—5.30 P.M.: Mr. B. Lloyd-Williams: The Retention of Dentures in Difficult Cases.

TUESDAY (22nd).—POST-GRADUATE COLLEGE (West London Hospital Hammersmith-road, W.).—10 A.M.: Dr. M. Moullin: Gynæcological Operation. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Clinical Lecture:—Dr. Bidwell.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. W. Ewart: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. J. M. Bramwell: Suggestion and its Value in Medical Practice.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Clinique:—10.30 A.M.: Medical Out-patient (Dr. A. G. Auld). 2.30 P.M.: Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M.: Lecture-Demonstration:—Dr. M. Leslie: Functional and Degenerative Heart Affections.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin. Special Lecture:—Mr. Carless: Arterio-sclerosis.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Medical (Dr. Beale), Throat and Ear (Mr. Waggett); Out-patients—Surgical (Mr. Edmunds), Throat and Ear (Mr. French); Operations (Mr. Beale).

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration: Dr. Abercrombie: Nose and Accessory Sinuses.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. F. Buzzard: Neuritis.

WEDNESDAY (23rd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. K. Scott: Diseases of Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr. Beddard: Practical Medicine.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. J. Pardoe: Clinique. (Surgical.) 5.15 P.M.: Lecture: Dr. D. Drummond (Newcastle-on-Tyne): The Mental Origin of Neurasthenia and its bearing on Treatment.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Surgical (Mr. Stabb); Out-patients—Medical (Dr.

Border), Gynæcological (Dr. Lockyer), Skin (Dr. Whitfield), Teeth (Mr. Baly); Operations (Mr. Stabb).

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: The Erythemata.

THURSDAY (24th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Baldwin: Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Lecture:—Dr. D. Drummond (Newcastle-on-Tyne): The Diagnosis of Thoracic Aneurysm.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting). Surgical Out-patient (Mr. Carson), X Ray (Dr. Pirie). 3 P.M.: Medical In-patient (Dr. G. P. Chappel). 4.30 P.M.: Lecture-Demonstration:—Dr. T. R. Whipham: Children's Diseases.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. G. Rankin: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Medical (Dr. Morison).

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. Dockrell: The Treatment of Eczema in all its Forms.

CHARING CROSS HOSPITAL.—3 P.M.: Demonstration:—Dr. Galloway and Dr. MacLeod: Diseases of the Skin. 4 P.M.: Demonstration:—Dr. Fenton: (Medical). (Post-Graduate Course.)

FRIDAY (25th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. M. Moullin: Gynæcological Operation. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Clinical Lecture:—Mr. Paget.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. D. Grant: Clinique. (Ear.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—10 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin. 2.15 P.M.: Special Lecture:—Mr. Carless: Arterio-sclerosis.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—3 P.M.: Clinical Lecture:—Dr. G. Lockyer.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Dr. Abercrombie: Nose and Accessory Sinuses.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. F. Buzzard: Neuritis.

SATURDAY (26th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of Eye. 2.30 P.M.: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: Herpes Catarrhalis, Herpes Zoster.

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 17th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 11	29·82	S.W.	0·07	111	64	53	54	56	Raining
,, 12	30·06	S.W.	0·05	109	61	52	53	55	Cloudy
,, 13	29·83	S.W.	...	109	61	51	51	53	Cloudy
,, 14	29·43	S.W.	...	66	58	53	54	57	Overcast
,, 15	29·20	S.W.	0·31	103	57	51	51	53	Fine
,, 16	29·43	N.E.	...	71	55	44	47	49	Overcast
,, 17	29·11	S.E.	0·23	58	54	47	50	53	Overcast

During the week marked copies of the following newspapers have been received:—*South London Press, Morning Post, Preston Guardian, Durham Chronicle, Daily Express, Glasgow Herald, Scotsman, Wimbledon Gazette, Broad Arrow, Army and Navy Gazette, Yorkshire Evening Post, Standard, Daily News, Daily Chronicle, Belfast News, Tribune, &c.*

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X.—X.

Letters, each with enclosure, are also acknowledged from—

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